BLAUPUNKT CCR680S

MODEL

SERVICE MANUAL

INTRODUCTION

This service manual contains technical information which will allow service personnels to understand and service this model.
Section 1 presents you with some general information of features and controls, enabling you to become familiar with each function.
Section 2 contributes to your mechanical and electrical adjustment as well disassembly and replacement procedures.
In the case of very common information relating to other models like mechanical adjustments, please refer to each service manual.
Section 3 contains block diagrams which offers you information for checking and understanding each circuit. Schematic diagrams which give you detailed information such as waveforms, voltage data, function e.t.c...
Section 4 contains exploded views and parts list.
Please place orders using the parts list and not the drawing reference numbers.
If the circuit is changed or modified, this information will be followed by supplementary service manual to be filed with original service manual.

Note: Adjustment procedure supplement for camera unit is separate volume from now.
Please refer to following manual for detail of adjustment procedure of camera.
Order number for adjustment procedure (camera) supplement: VMD9308M125.
(It will be supplied a few weeks later.)

Note: This movie camera uses AC Adaptor is VW-AS4 series.
The Service manual for AC Adaptor VW-AS4 is separate volume.
Please refer to following manual for detail of VW-AS4 series. (order no. VMD9304M117)

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Technical Information

Service caution

1-1. Service Extension Cables

Use the following extension cables when checking or adjusting individual circuit boards

Ref	Part NO	PIN	PART NAME	CONNECTION	Q'TY
1	VFK0670	18	FLAT CABLE	FP304(CAM.MAIN)~B1002(POWER)	1
2	VFK0710	23	FLAT CABLE	FP5001(VTR MAIN)~CYL	1
3	VFK0723	22	EXTENSION CABLE	B301(CAM.MAIN)~B501(CAMERA.OP)	1
4	VFK0727	16	FLAT CABLE	FP6001(VTR MAIN)~MECHA	1
5	VFK0728	9	FLAT CABLE	FP4001(VTR MAIN)~A/C HEAD	1
6	VFK0729	6	FLAT CABLE	FP6002(VTR MAIN)~MECHA	1
7	VFK0841	28	EXTENSION CABLE	B6001(VTR MAIN)~B1001(POWER)	1
8	VFK0896	23	FLAT CABLE	FP6004(VTR MAIN)~FP2003(DRIVE)	1
9	VFK0913	18	FLAT CABLE	FP301(CAM.MAIN)~FP3001(VTR MAIN)	1
10	VFK0933	10	FLAT CABLE	FP5001(VTR MAIN)~AV JACK	1

How To Use extension cables.

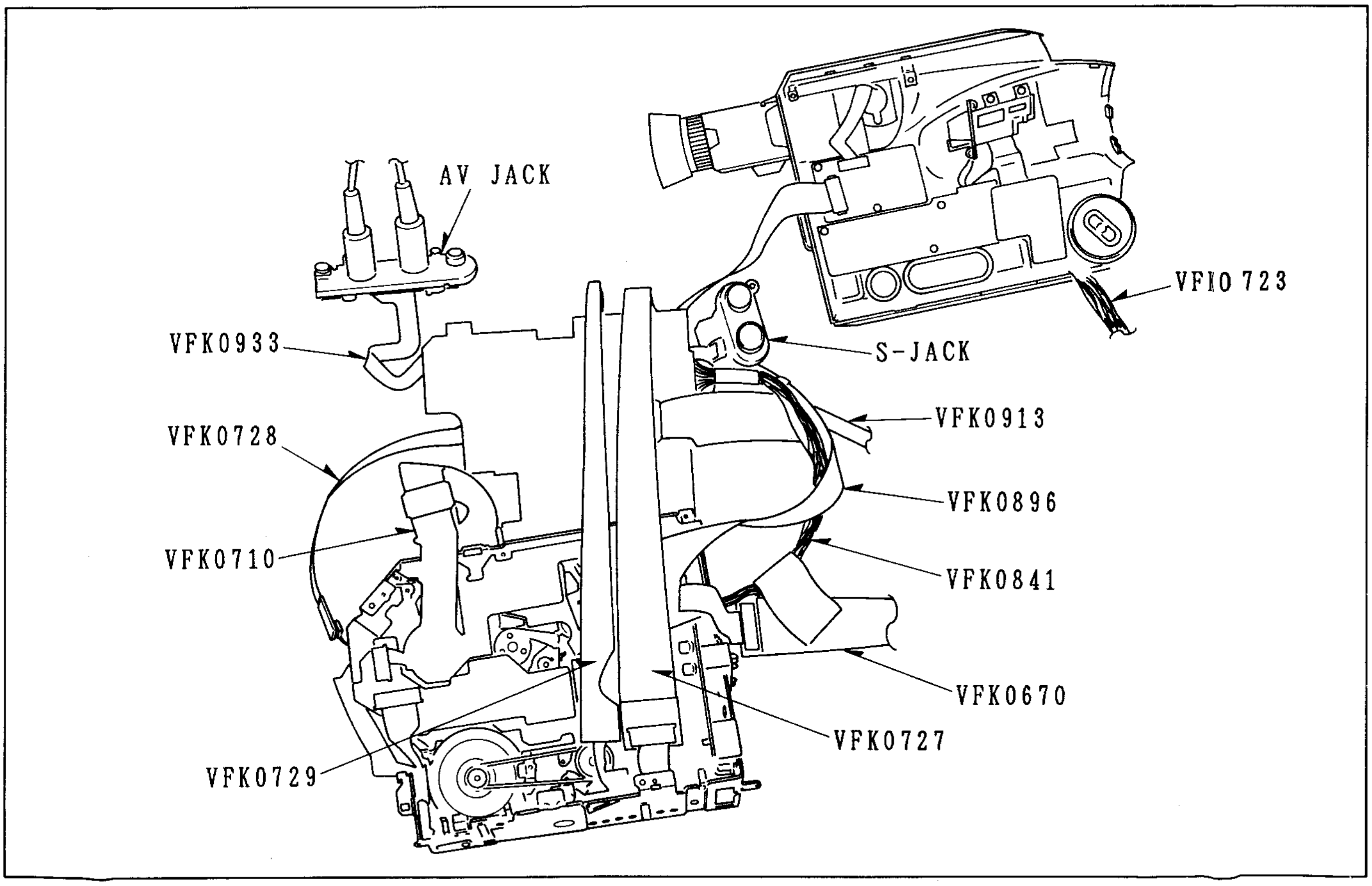

AV JACK
VFK0723
VFK0933
S-JACK
VFK0913
VFK0728
VFK0896
VFK0710
VFK0841
VFK0670
VFK0727
VFK0729

Fig. T1

1-2. New ROM IC for EVR fixture.

We are pleased to introduse the new ROM IC, VFK0701ROM21 for the EVR fixture. This ROM IC will provide you with many advanced features such as automatic calculation.

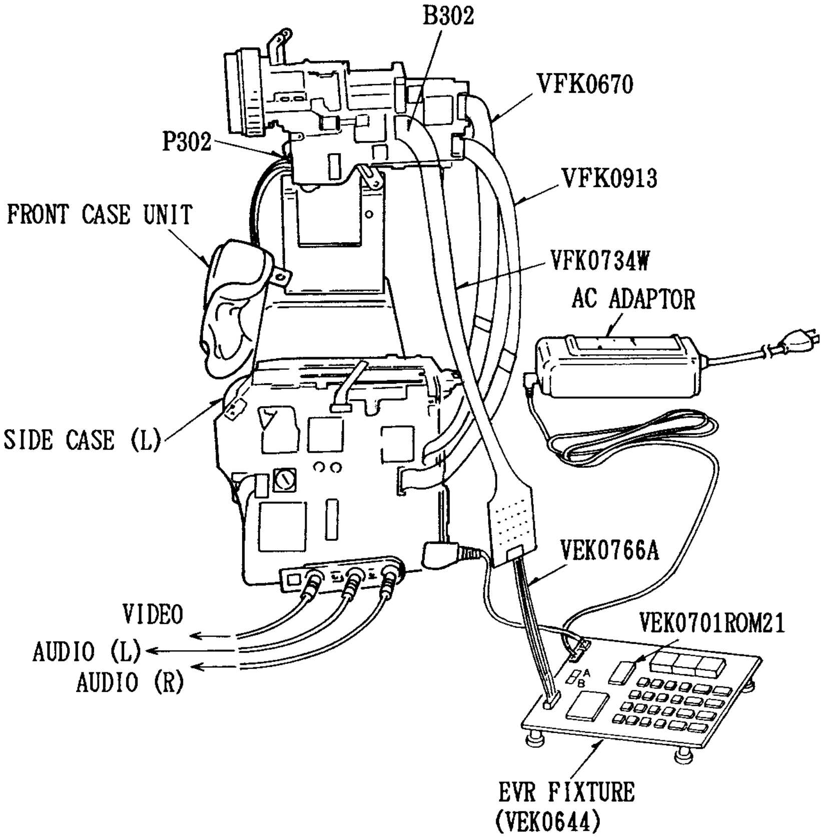
Connecting Cables for between EVR and Movie Camera are as same as provious models.

Number of Connecting Cables : VFK0734W & VFK0766A

Connection between this Movie Camera and EVR fixture are solderless when using the VFK0734W and VFK0766A. Please refer to Fig. T2 for how to use the cables.

PIN ARRANGEMENT OF B802

1	CAMERA CLOCK
2	SID
3	VD
4	Y SIGNAL
5	CDS OUT
6	A/D IN
7	Vref H
8	Vref T
9	F NO
10	WIDE
11	IRIS OPEN
12	RESET
13	GND
14	5V
15	TELE
16	Z.ENC
17	Vref-T
18	Vref-L
19	SUB
20	AGC OUT
21	AF CLOCK
22	AF DATA
23	CAMERA TEST
24	GND


B302
VFK0670
P302
VFK0913
FRONT CASE UNIT
VFK0734W
AC ADAPTOR
SIDE CASE (L)
VEK0766A
VIDEO
AUDIO (L)
AUDIO (R)
VEK0701ROM21
EVR FIXTURE
(VEK0644)

NOTE:
- a). During adjustment, connection of SIDE CASE (R) is not required.
- b). The FRONT CASE UNIT must be connect performing AWT adjustment.

Fig. T2

1-3. ROM ICs for EVR fixture

There are 21 kinds of ROM IC's as shown in Fig. R1.
These all ROM ICs have 3 kinds of Functions as shown below.

(1). General Adjustment for Camera unit
(2). Automatic Calculation for AWB & Colour Reproduction
(3). Average Data Automatic rewriting

ROM NUMBER & available	Effective System	Applicable models & Function	PART NUMBER OF EVR CONNECTION CABLE
VFK0701ROM1 available	PAL & NTSC	NV-MS70/NV-M810 NV-S1/S100	VFK0769
VFK0701ROM2 available	PAL & NTSC	NV-S5/S500	VFK0730
VFK0701ROM3 available	PAL ONLY	NV-G1/G2/G3(G100/G200/G300) NV-MS95/MS950	VFK0699
VFK0701ROM4 available	NTSC ONLY	NV-S7/S9	VFK0766A & VFK0734W
VFK0701ROM5 available	PAL ONLY	NV-S7/S700 NV-G101/G120/G202/G220/G303	VFK0766A & VFK0734W VFK0699
VFK0701ROM6 available	NTSC ONLY	NV-T1	VFK0766A & VFK0734W
VFK0701ROM7 available	PAL ONLY	NV-M40/M3000/M3300	VFK0766A & VFK0734W
VFK0701ROM8 available	PAL ONLY	NV-S6/S600 NV-S8/S800	VFK0766A & VFK0734W
VFK0701ROM9 available	NTSC ONLY	NV-S7/S9/S99 NV-T1	VFK0766A & VFK0734W
VFK0701ROM10 available	PAL ONLY	NV-MS4/M9000/M9900 NV-M40/NV-M3000/NV-M3300	VFK0766A & VFK0734W
VFK0701ROM11 available	NTSC ONLY	NV-M3000/NV-M9000	VFK0766A & VFK0734W
VFK0701ROM12 available	NTSC ONLY (JAPAN)	NV-3CCD1 (JAPAN DOMESTIC)	VFK0766A & VFK0734W
VFK0701ROM13 available	PAL ONLY	NV-S20/S250	VFK0766A & VFK0734W
VFK0701ROM14 available	PAL ONLY	NV-S78	VFK0766A & VFK0734W
VFK0701ROM15 available	NTSC ONLY	NV-CS1	VFK0766A & VFK0734W
VFK0701ROM16 available	NTSC ONLY	NV-S250/S750	VFK0766A & VFK0734W
VFK0701ROM17 available	NTSC ONLY	NV-3CCD1PN	VFK0766A & VFK0734W
VFK0701ROM18 available	PAL ONLY	NV-CS1	VFK0766A & VFK0734W
VFK0701ROM19 available	PAL ONLY	NV-R50/R500	VFK0766A & VFK0734W
VFK0701ROM20 available	NTSC ONLY	NV-R500 NV-S10/S58	VFK0766A & VFK0734W
VFK0701ROM21 available	PAL ONLY	NV-S85/S850	VFK0766A & VFK0734W

Fig. R1

1-4. Auto Power Save Function

General Description

When the Movie Camera is in the shooting pause mode but you are not looking into the Viewfinder, the Viewfinder will be turned off auto matically to prevent unnecessary power consumption.
The Eye Sensor on the underside of the Viewfinder measures the distance between the Viewfinder and your cheek.
When this distance becomes more than approx. 1cm, the picture in the Viewfinder will disapear.
At the same time, the Auto Focus Function the Digital Zoom Function and the Digital Image Stabilizer Function will be cancelled.

Notes:

(1) When you turn the [POWER SAVE] switch "ON" the Auto Power Save Function works in the following Condition.
    - During shooting Pause mode.
    - No Video cassette in the Movie Camera.

(2) Even if you turn the [POWER SAVE] switch "ON" the Auto Power Save Function does not work in the the following Condition.
    - During shooting.
    - In the VTR mode.

(3) The Auto Power Saver functions different according to the Power supply as follows.
    a. Battery......EVF:OFF, AF:OFF, DIS:OFF
       Digital Zoom:OFF
    b. Ac adaptor....EVF:OFF, AF:ON, DIS:ON
       Digital Zoom:ON

Circuit Description

When the Auto Power Save Function switch is turned ON, the Auto Power Save operation works as follows. (See Fig. T5)

(1) IC6001-pin(5) always sends APS clock to Photo diode (D801) through QR6181 and Q6181, and D801 always emites Infrared-rays.

(2) When the cheek is near the unit, Infrared-rays reflect back to D802 (This sensitivity is adjustable by VR805.)
And then it send a signal to IC6001-pin(106) through IC6181(Amplifier.)

(3) Input signal of IC6001-pin(106) separates into two phases.
One is sends to IC308-pin(93) from IC6001-pin(53) using the Serial Clock line to achive the CAMERA Control, such as the Digital Zoom, the Auto Focus and the D.I.S Function.
The other one sends out from IC6001-pin(119) through the A/D Convertor.
(When input signal of IC6001-pin(106) is more than 100mV, IC6001-pin(119) turns (High).)
(When input signal of IC6001-pin(106) is less than 70mV, IC6001-pin(119) turns (Low).)

(4) When IC6001-pin(119) is (High), QR6023 and QR6028 turn ON. So, SW EVF 5V is generated and then it sends a signal to the EVF to make the EVF turns ON.
When IC6001-pin(119) is (High), QR6023 and QR6028 turn OFF. So, the EVF turns OFF.

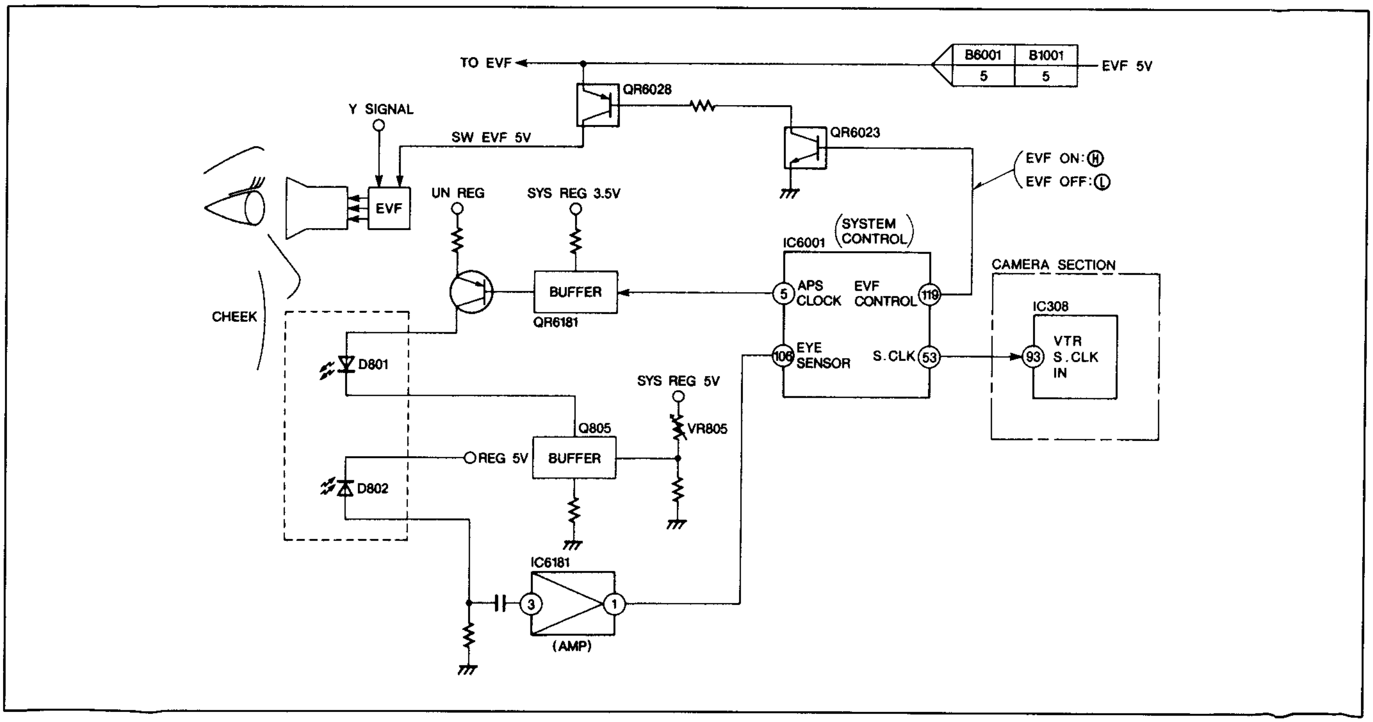

TO EVF
B6001
B1001
5
5
EVF 5V
QR6028
Y SIGNAL
SW EVF 5V
QR6023
EVF ON:Ⓗ
EVF OFF:Ⓛ
EVF
UN REG
SYS REG 3.5V
SYSTEM CONTROL
IC6001
CAMERA SECTION
BUFFER
QR6181
5
APS CLOCK
EVF CONTROL
119
IC308
CHEEK
D801
106
EYE SENSOR
S.CLK
53
93
VTR S.CLK IN
SYS REG 5V
Q805
VR805
REG 5V
BUFFER
D802
IC6181
3
1
(AMP)

Fig. T5

1-5. CAMERA INFORMATION IS RECORDED ON THE TAPE!

The camera information (zoom magnification, focua condition, sutter speed, iris setting, etc.) is automatically recorded together with the VITC signals. This information can be checked in the View finder during playback. The indicatable Camera Informations are shown below.

1). Shutter speed
2). White Balance mode
3). Digital zoom (ON/OFF)
4). Digital zoom value
5). Digital gain value
6). Digital mode
7). DIS (ON/OFF)
8). F number
9). Focus(AF/MF)

How to Playback of these signals ?
Checking the VITC value and the camera information is possible by repeatedly pressing the [MEMORY] button during playback in the VTR mode.

<< V.I.T.C. (Vertical Interval Time Code) >>
As an address (individual number) is recorded for each frame, it is possible to find the accurate position of any desired scene or picture on a tape by checking the address during playback. This address is called "Time Code".
Since the VITC signals are recorded together with the Video signals on the Video Tape.

1-6. HOW TO CHECK THE E.V.F. INFORMATION ON THE TV SCREEN ?

If you want to check the E.V.F information on the TV screen, push the [TAPE] + [SHIFT] + [DATE/TIME] keys simultaneously.

SERVICE INFORMATION DISPLAY

General Description

The NV-S85/S850 series has SERVICE INFORMATION DISPLAY function which facilitates quick trouble-shooting. You can turn on the Service Information Display, by performing the following procedures. This causes the Service Information to be displayed on the EVF. (There are 3 kinds of SERVICE MODE, as shown below.) In the OSD Line Output Mode, Service Information can also be viewed on the TV.

MODE NAME	FUNCTION	How to turn it ON (Push the following keys simultaneously for at least 2 sec.)		
OSD Line Output MODE	• Checking the EVF information on the TV monitor.	DATE/TIME SHIFT	TAPE	DATE TIME (SIDE PANEL)

MODE NAME	FUNCTION	How to turn it ON (Push the following keys simultaneously for at least 2 sec.)		
SERVICE MODE 1	• Remaining Battery Voltage(A/D Value) • Safety Devices • Capstan/Cylinder Injunctions	TRACKING SHIFT	RESET	DATE TIME (SIDE PANEL)

MODE NAME	FUNCTION	How to turn it ON (After turning on SERVICE MODE 1, Push [DATE/TIME] key (SIDE PANEL)
SERVICE MODE 2	• Reference Voltage (A/D Value) • Mechanism position • Serial key code.	DATE TIME (ON THE SIDE PANEL)

MODE NAME	FUNCTION	How to turn it ON (After turning on SERVICE MODE 1, Push [DATE/TIME] key (SIDE PANEL)
SERVICE MODE 3	• ERROR CODE Display	DATE TIME (SIDE PANEL)

ERROR CODE DISPLAY

When undesirable conditions occur, the "ERROR CODE" will automatically be displayed on the EVF, the CAMERA LED will flash for a short time, then the power will be turned off.

By turning on Service Mode 3, you can check to see what kind of undesirable condition has occured, even after error code has disappeared. The Error Code is automatically stored in IC6001 if the Lithium battery is attached, so you can check the Error Code even if the AC Main Lead or the Battery has been disconnected. To clear the ERROR CODE stored, short the positive and negative terminals of the Lithium Battery on the side panel. You can also check the Error Code by looking at how the CAMERA LED flashes. The CAMERA LED flashing pattern will differ according to the Error Code. (See Fig. J)

SERVICE MODE 1

① Remaining Battery Voltage (A/D Value)=This Value shows the voltage at IC6001 Pin 98 which detects the battery under cut.

Display position ⇒ RO : OO (Position of `Tape Remaning` or `Tape Length` indication)

OO — Remaining Battery A/D Value

RO — The kind of service mode

SE1⇒service mode 1
SE2⇒service mode 2
SE3⇒service mode 3

(unit:V)

High Digit	Low Digit															
	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0	0	0.01	0.03	0.04	0.06	0.07	0.09	0.10	0.12	0.13	0.15	0.16	0.18	0.19	0.21	0.22
1	0.24	0.25	0.27	0.28	0.30	0.31	0.33	0.34	0.36	0.37	0.39	0.40	0.41	0.43	0.45	0.46
2	0.48	0.49	0.51	0.52	0.54	0.55	0.57	0.58	0.60	0.61	0.63	0.64	0.66	0.67	0.69	0.70
3	0.72	0.73	0.75	0.76	0.77	0.79	0.80	0.81	0.83	0.85	0.86	0.88	0.89	0.91	0.92	0.94
4	0.95	0.97	0.98	1.00	1.01	1.03	1.04	1.06	1.07	1.09	1.10	1.12	1.13	1.15	1.16	1.18
5	1.19	1.21	1.22	1.24	1.25	1.27	1.28	1.30	1.31	1.33	1.34	1.36	1.37	1.39	1.40	1.42
6	1.43	1.45	1.46	1.48	1.49	1.50	1.52	1.53	1.55	1.56	1.58	1.59	1.61	1.62	1.64	1.65
7	1.67	1.68	1.70	1.71	1.73	1.74	1.76	1.77	1.79	1.80	1.82	1.83	1.85	1.86	1.87	1.89
8	1.91	1.92	1.94	1.95	1.97	1.98	2.00	2.01	2.03	2.04	2.06	2.07	2.09	2.10	2.12	2.13
9	2.15	2.16	2.18	2.19	2.21	2.22	2.24	2.25	2.26	2.28	2.29	2.31	2.32	2.34	2.35	2.37
A	2.38	2.40	2.41	2.43	2.44	2.46	2.47	2.49	2.50	2.52	2.53	2.55	2.56	2.58	2.60	2.61
B	2.62	2.64	2.65	2.67	2.69	2.70	2.71	2.73	2.74	2.76	2.77	2.79	2.80	2.82	2.83	2.85
C	2.86	2.88	2.89	2.91	2.92	2.94	2.95	2.97	2.98	2.99	3.01	3.02	3.04	3.05	3.07	3.08
D	3.10	3.11	3.13	3.14	3.16	3.17	3.19	3.20	3.22	3.23	3.25	3.26	3.28	3.29	3.31	3.32
E	3.34	3.35	3.37	3.38	3.40	3.41	3.43	3.44	3.46	3.47	3.49	3.50	3.52	3.53	3.55	3.56
F	3.58	3.59	3.61	3.62	3.64	3.65	3.67	3.68	3.70	3.71	3.73	3.74	3.75	3.77	3.78	3.80

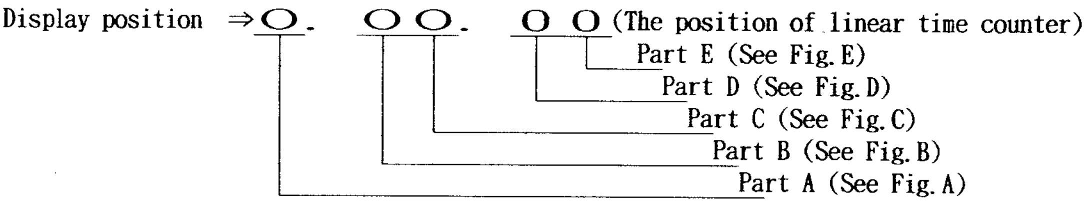
Remaining Battery Voltage (A/D value) (Voltage at IC6001 Pin 98)

Display position ⇒ RO : OO

For example ⇒SE1 A5 (Means you are in Service Mode 1 and the voltage at IC6001 Pin 98 is 2.46V.)

★ When the voltage at IC6001 pin98(the battery remaining voltage) and the voltage (approx.2.46V) at IC6001 Pin 99(the reference voltage) became same level, battery under cut will be detected.

②The condition of the tape, safety device, capstan/cilinder information are shown in hexa decimal numbers.


Display position ⇒○. ○○. ○ ○
(The position of linear time counter)
Part E (See Fig. E)
Part D (See Fig. D)
Part C (See Fig. C)
Part B (See Fig. B)
Part A (See Fig. A)

DISPLAY CONTENTS	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
CASSETTE SW (CASS. UP:1)	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1
SAFETY TAB SW (ON:1)	0	0	1	1	0	0	1	1	0	0	1	1	0	0	1	1
S-VHS OPERATIONSW (ON:1)	0	0	0	0	1	1	1	1	0	0	0	0	1	1	1	1
S-VHS DETECTION SW (S-VHS:1)	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1

Fig. A

DISPLAY CONTENTS	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
LOADING LOCK (DET.:1)	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1
CYLINDER LOCK (DET.:1)	0	0	1	1	0	0	1	1	0	0	1	1	0	0	1	1
T-REEL LOCK (DET.:1)	0	0	0	0	1	1	1	1	0	0	0	0	1	1	1	1
S-REEL LOCK (DET.:1)	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1

Fig. B

DISPLAY CONTENTS	0	4	8	C
NOT USED(ALWAYS "0")	0	0	0	0
NOT USED(ALWAYS "0")	0	0	0	0
BATTERY UNDER CUT(DET:1)	0	1	0	1
DEW SENSOR (DET:1)	0	0	1	1

Fig. C

DISPLAY CONTENTS	0	1	8	9
LOADING COMMAND (OUTPUT:1)	0	1	0	1
NOT USED (ALWAYS "0")	0	0	0	0
NOT USED (ALWAYS "0")	0	0	0	0
POSITION CHATARING (DET.:1)	0	0	1	1

Fig. D

DISPLAY CONTENTS	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
CYLINDER ON (OUTPUT:1)	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1
CAPSTAN ON (OUTPUT:1)	0	0	1	1	0	0	1	1	0	0	1	1	0	0	1	1
CAPSTAN REV. (OUTPUT:1)	0	0	0	0	1	1	1	1	0	0	0	0	1	1	1	1
LOADING ON (OUTPUT:1)	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1

Fig. E

SERVICE MODE 2

①Reference voltage A/D Value =This value shows the voltage at IC6001 Pin 99 which is used as a reference voltage to detect the battery under cut.

Display position ⇒ R O : O O (The position of tape remaning indication)

Reference voltage A/D Value

The kind of service mode

S E 1⇒service mode 1
S E 2⇒service mode 2
S E 3⇒service mode 3

(unit:V)

		Low Digit															
		0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
High Digit	0	0	0.01	0.03	0.04	0.06	0.07	0.09	0.10	0.12	0.13	0.15	0.16	0.18	0.19	0.21	0.22
	1	0.24	0.25	0.27	0.28	0.30	0.31	0.33	0.34	0.36	0.37	0.39	0.40	0.41	0.43	0.45	0.46
	2	0.48	0.49	0.51	0.52	0.54	0.55	0.57	0.58	0.60	0.61	0.63	0.64	0.66	0.67	0.69	0.70
	3	0.72	0.73	0.75	0.76	0.77	0.79	0.80	0.81	0.83	0.85	0.86	0.88	0.89	0.91	0.92	0.94
	4	0.95	0.97	0.98	1.00	1.01	1.03	1.04	1.06	1.07	1.09	1.10	1.12	1.13	1.15	1.16	1.18
	5	1.19	1.21	1.22	1.24	1.25	1.27	1.28	1.30	1.31	1.33	1.34	1.36	1.37	1.39	1.40	1.42
	6	1.43	1.45	1.46	1.48	1.49	1.50	1.52	1.53	1.55	1.56	1.58	1.59	1.61	1.62	1.64	1.65
	7	1.67	1.68	1.70	1.71	1.73	1.74	1.76	1.77	1.79	1.80	1.82	1.83	1.85	1.86	1.87	1.89
	8	1.91	1.92	1.94	1.95	1.97	1.98	2.00	2.01	2.03	2.04	2.06	2.07	2.09	2.10	2.12	2.13
	9	2.15	2.16	2.18	2.19	2.21	2.22	2.24	2.25	2.26	2.28	2.29	2.31	2.32	2.34	2.35	2.37
	A	2.38	2.40	2.41	2.43	2.44	2.46	2.47	2.49	2.50	2.52	2.53	2.55	2.56	2.58	2.60	2.61
	B	2.62	2.64	2.65	2.67	2.69	2.70	2.71	2.73	2.74	2.76	2.77	2.79	2.80	2.82	2.83	2.85
	C	2.86	2.88	2.89	2.91	2.92	2.94	2.95	2.97	2.98	2.99	3.01	3.02	3.04	3.05	3.07	3.08
	D	3.10	3.11	3.13	3.14	3.16	3.17	3.19	3.20	3.22	3.23	3.25	3.26	3.28	3.29	3.31	3.32
	E	3.34	3.35	3.37	3.38	3.40	3.41	3.43	3.44	3.46	3.47	3.49	3.50	3.52	3.53	3.55	3.56
	F	3.58	3.59	3.61	3.62	3.64	3.65	3.67	3.68	3.70	3.71	3.73	3.74	3.75	3.77	3.78	3.80

Reference Voltage (A/D value) (Voltage at IC6001 Pin 99)

Display position ⇒ R O : O O

⇩

For example ⇒S E 2 A 5 (It shows Service Mode 2 and the voltage at IC6001 pin 99 is 2.46V.)

②The contents of mechanism position, serial key code and mechanical process number are shown in hexa decimal number.

Display position ⇒ O : O O. O O (The position of linear time counter)

Part H (See Fig. H)
Part G (See NOTE A)
Part F (See Fig. F)

DISPLAY	MECHANISM POSITION
1	EJECT
2	PRE・EJECT
3	STOP1
4	PRE・STOP
5	(MID)
6	
7	
8	STOP2
9	――――――
A	PLAY

Fig. F (Mechanism Position)

DISPLAY	KEY CODE
0 0	STOP
0 1	EJECT
0 2	REW
0 3	FF
0 6	PAUSE
0 8	REC
0 9	A.DUB
0 A	PLAY
5 0	VTR/CAMERA
5 4	COUNTER RESET
5 5	MEMORY
7 F	NO OPERATION

Fig. H (Key code)

NOTE A:

This part shows mechanism movement process.
However it changes too fast to read it.
When servicing, use the Part F (Mechaism Position:See Fig. F) in stead of Part G.

SERVICE MODE 3

①When undesirable conditions occur, the Error Code is storedin in IC6001 automatically, using the Lithum battery.
When you turn on Service Mode 3, the Error Code is displayed on the EVF.
Also, CAMERA LED is flashed according to Error Code.

Display position ⇒ O : O O. O O (The position of linear time counter)
(See Fig. I)

blank (No display)
01～05, 10～11
F or U

Display position⇒CAMERA LED(See Fig. J)

DISPLAY	CONDITION	The Power off timing
F 0 1	T－REEL LOCK	after 1 minute flashing LED
F 0 2	S－REEL LOCK	after 1 minute indicating LED
F 0 3	UNLOADING LOCK	after 1 minute indicating LED
F 0 4	LOADING LOCK	after 1 minute indicating LED
F 0 5	CYLINDER LOCK	after 1 minute indicating LED
U 1 0	DEW DETECTION	after 18 minute indicating LED
U 1 1	HEAD CLOGGING	not turning off

Fig. I Error Code

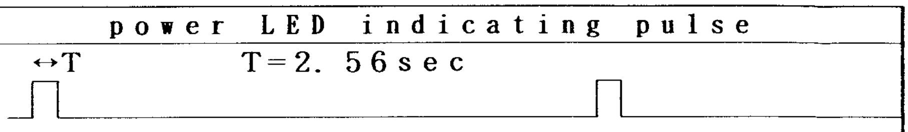
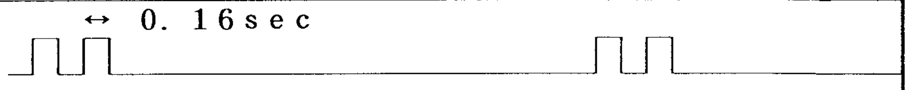
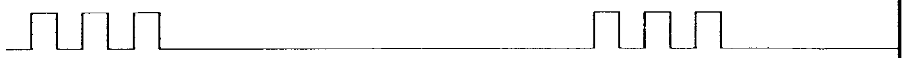
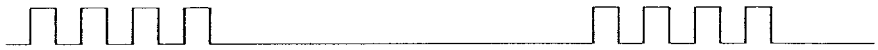
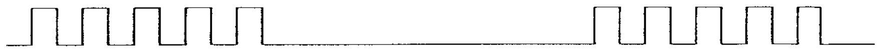
lock condition	power LED indicating pulse
T-REEL LOCK	
S-REEL LOCK	
UNLOADING LOCK	
LOADING LOCK	
CYLINDER LOCK	
EXCEPT ABOVE MENTION	power LED is indicated 1 HZ timing

Fig. J LED indication pulse

3. How to Check Digital Circuit

3–1. Checking Principle

The digital circuit can be checked if a ramp signal (sawtooth signal) is supplied to the input of A/D Converter (**IC301-8**). The output of A/D Converter is described below.

In addition to the A/D Converter (**IC301**) output, all digital ICs input and output signals become specified pulses, which are listed in schematic diagram.

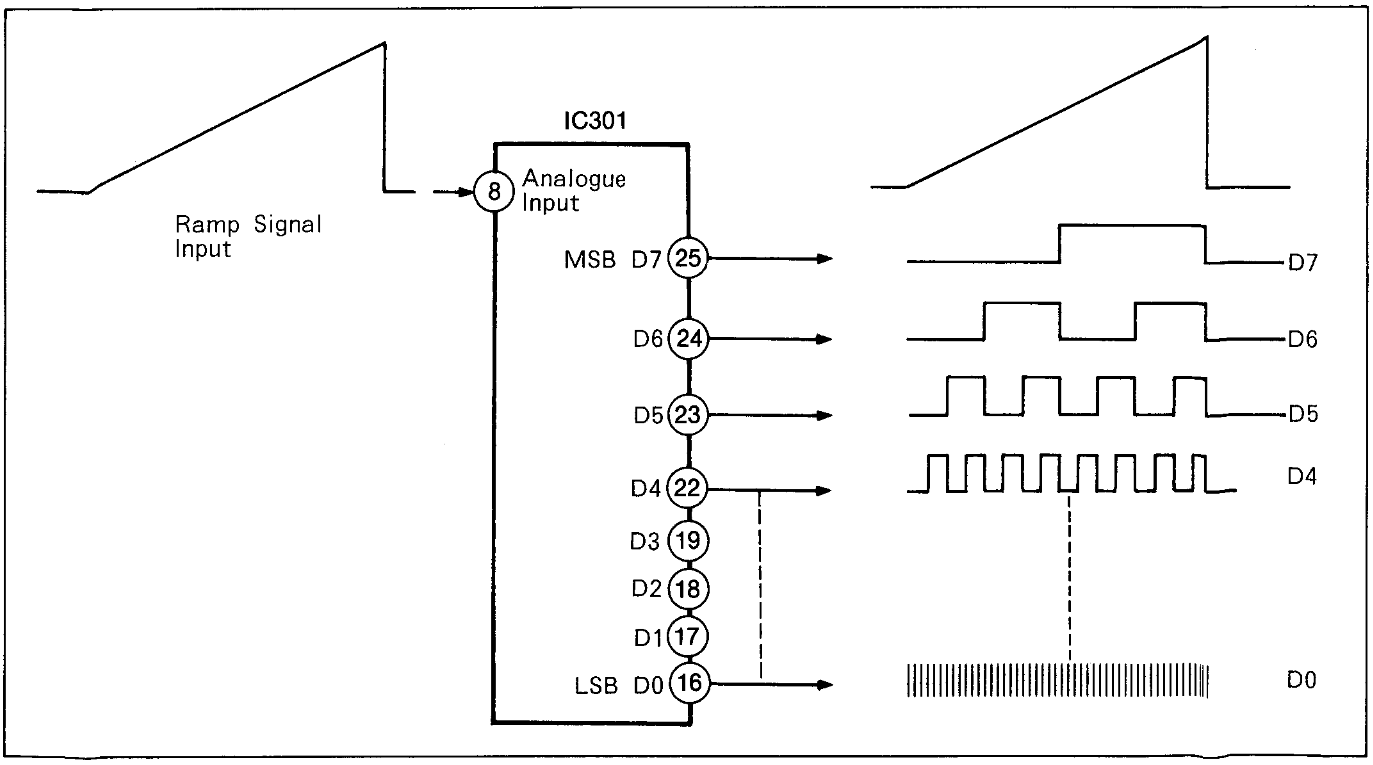
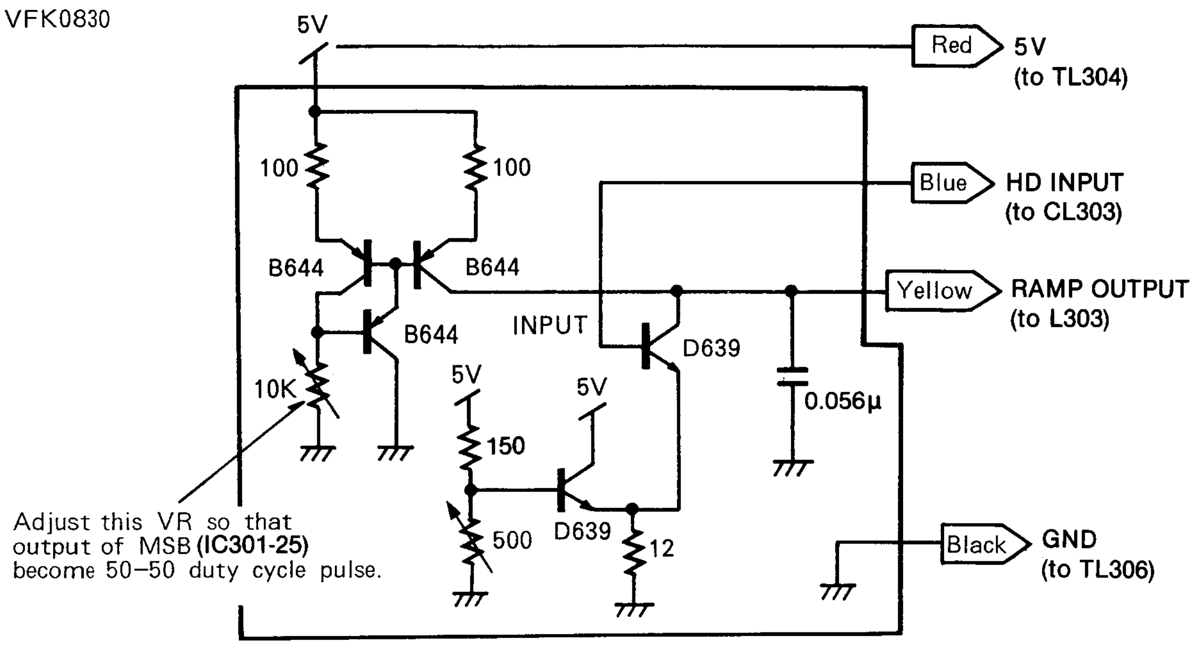

Ramp Signal Input
IC301
8
Analogue Input
MSB D7 25
D6 24
D5 23
D4 22
D3 19
D2 18
D1 17
LSB D0 16
D7
D6
D5
D4
D0

Fig. T14

3–2. How to Connect ramp generator.

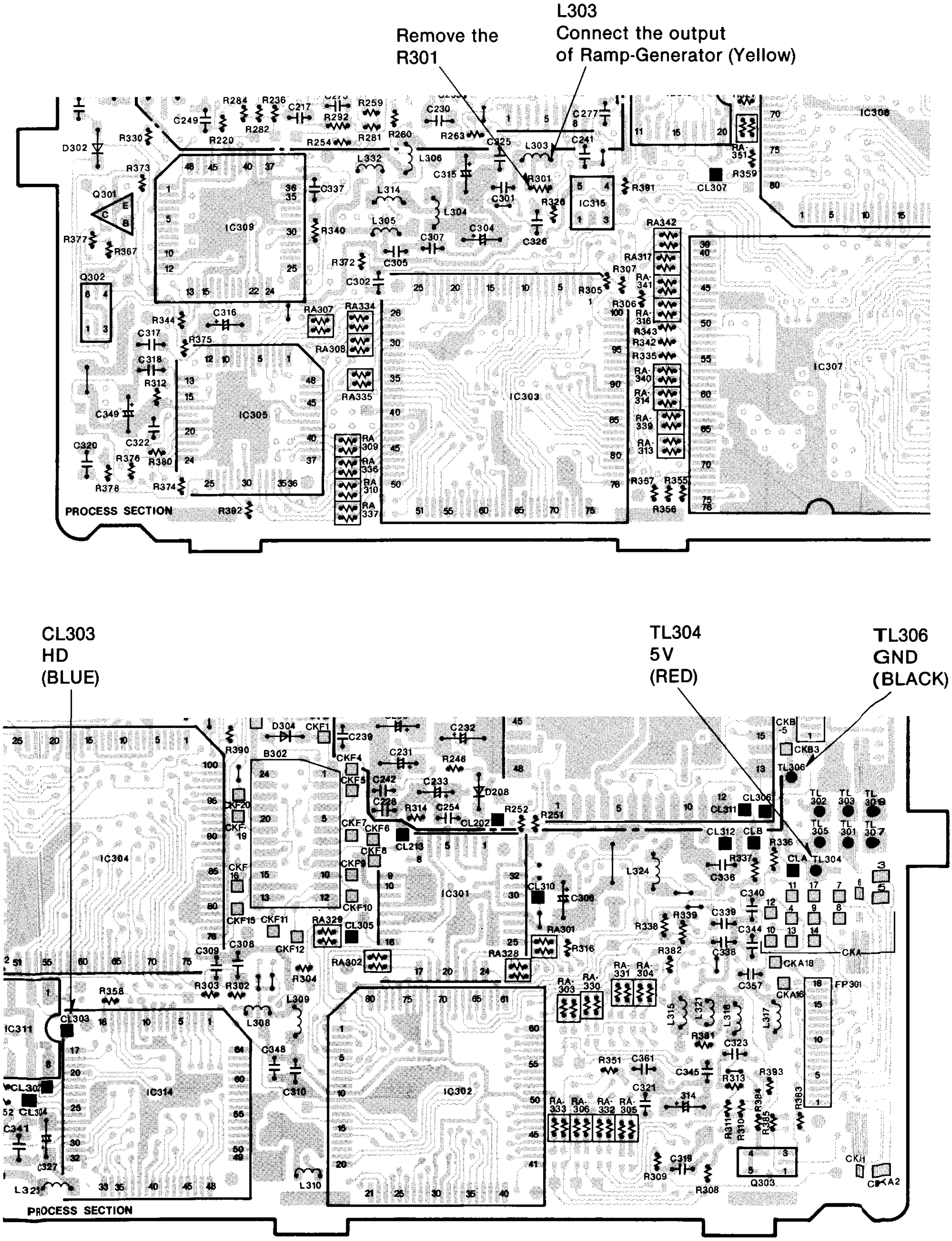
In order to generate a ramp signal that synchronizes with the HD(horizontal drive) of the camera, the following ramp generator circuit has been designed.
Construct and connect it to process board as shown in Fig.T15,16.


VFK0830
5V
Red
5V
(to TL304)
100
100
Blue
HD INPUT
(to CL303)
B644
B644
Yellow
RAMP OUTPUT
(to L303)
B644
INPUT
D639
5V
5V
10K
0.056µ
150
500
D639
12
Black
GND
(to TL306)

Adjust this VR so that output of MSB **(IC301-25)** become 50–50 duty cycle pulse.

ITEMS	VALUE	PCS
RESISTOR		
ERDS2TJ120	**12ohm**	**1**
ERDS2TJ101	**100ohm**	2
ERDS2TJ151	**150ohm**	**1**
VARIABLE RESISTOR		
EVNDRAA00B14	10Kohm	1
EVNDRAA00B52	500ohm	1
TRANSISTOR		
2SB644	**PNP**	**3**
2SD639	**NPN**	**2**
CAPACITOR		
ECQB1H563JH	**0.056µ**	**1**

Fig. T15



Remove the R301

L303
Connect the output of Ramp-Generator (Yellow)

CL303
HD
(BLUE)

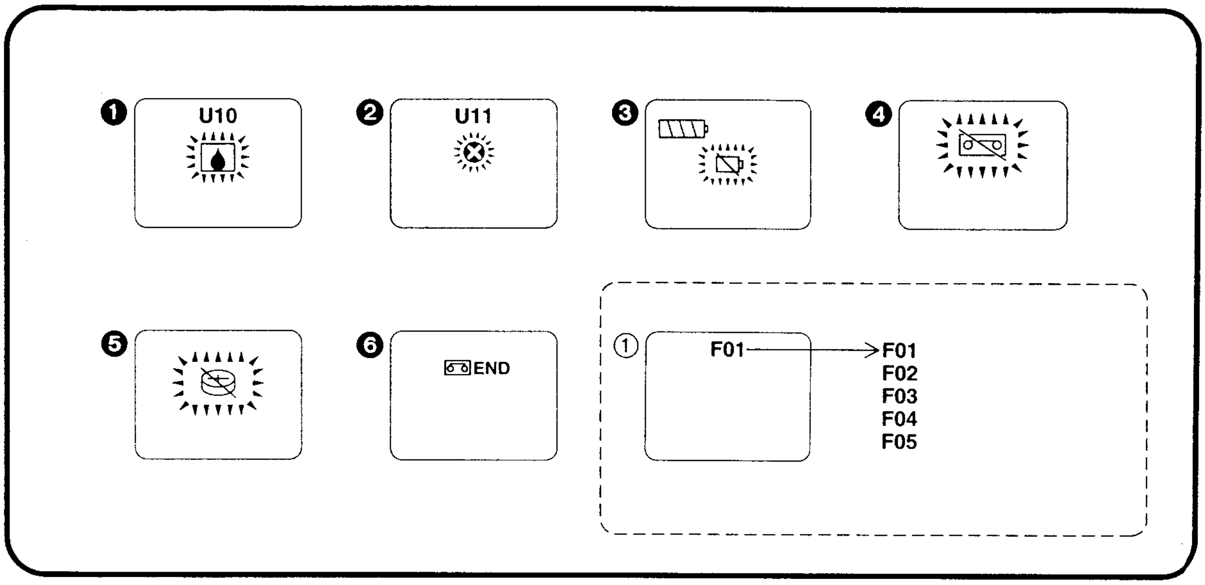
TL304
5V
(RED)

TL306
GND
(BLACK)

PROCESS SECTION
IC303
IC305
IC307
IC308
IC309
IC315
Q301
Q302
D302
L303
R301
CL307
PROCESS SECTION
IC301
IC302
IC304
IC311
IC314
B302
Q303
FP301
CL303
TL306
TL304

Fig. T16

SECTION 1 GENERAL DESCRIPTIONS



Indications in the Viewfinder

■ Warning/Alarm Indications

❶ Condensation
Condensation has formed Inside the Movie Camera. Wait until the "U 10/💧" Indication disappears.

❷ Video Head Clogging
The video heads are dirty.

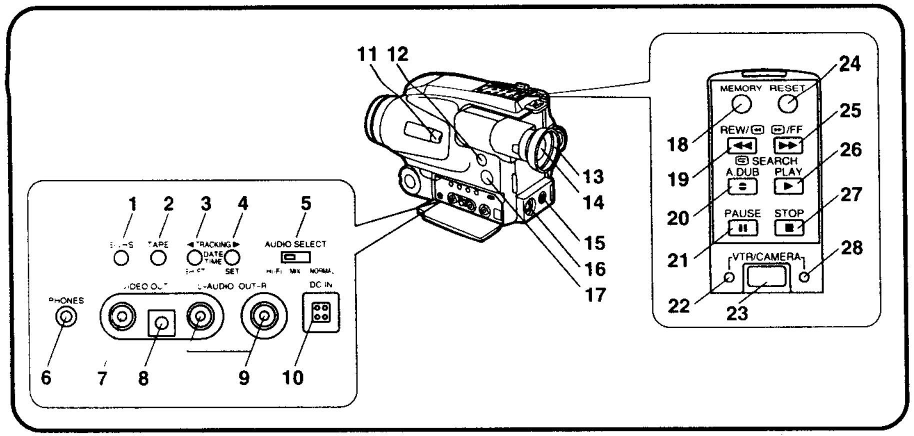
❸ Remaining Battery Power
The 4 segments of the Battery Pack Indication begin to disappear one after another as the power of the Battery Pack weakens. When only the last segment remains, the "🔋" Indication starts to flash in the centre of the Viewfinder. When the last segment has disappeared, the "CAMERA" Indication Lamp flashes for a few seconds, and then the Movie Camera automatically switches itself off. Replace the Battery Pack with a fully charged one.

❹ Tape
When no video cassette is inserted, or when the tab of the inserted video cassette is broken out, this indication flashes. Insert a video cassette with intact tab.

❺ Button-Type Battery
There is no Button-Type Battery inserted or the inserted battery is exhausted. Insert a new Button-Type Battery (CR2032).

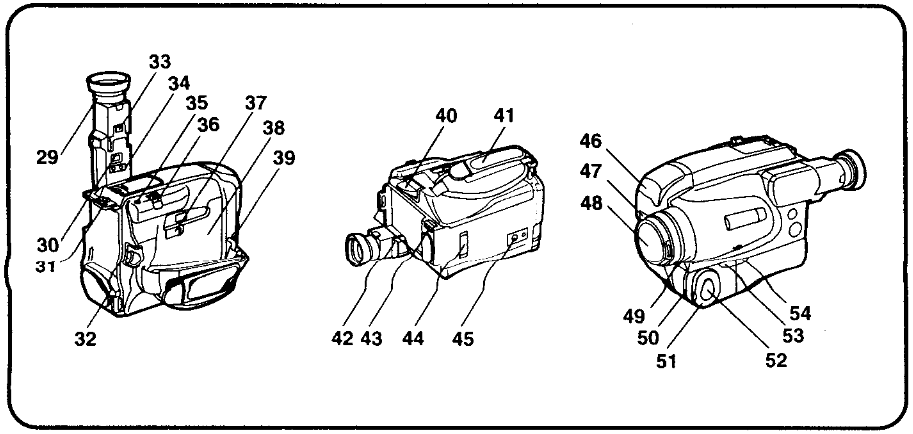
❻ End of the Tape
When the tape has reached its end, this indication lights up.
Insert a new cassette.

① Error Code
If the "F" Indication appears in the Viewfinder, the "CAMERA" Lamp starts to flash, and one minute late, the Movie Camera automatically switches itself off.
If the "F" Indication appears in the Viewfinder, write down the figure next to the "F" Indication and tell it to the service personnel.


11 12
13
14
15
16
17
1 2 3 4 5
S-VHS
TAPE
◀ TRACKING ▶
DATE/TIME
SHIFT
SET
AUDIO SELECT
HI-FI MIX NORMAL
PHONES
VIDEO OUT
L-AUDIO OUT-R
DC IN
6 7 8 9 10
MEMORY RESET
REW/⊟ ⊟/FF
⊟ SEARCH
A.DUB PLAY
PAUSE STOP
VTR/CAMERA
18
19
20
21
22
23
24
25
26
27
28

Controls and Functions

1 [S-VHS] Button
2 [TAPE] Button
3 [DATE/TIME/SHIFT • TRACKING ◀] Button
4 [DATE/TIME/SET • TRACKING ▶] Button
5 [AUDIO SELECT] Switch
6 [PHONES] Socket
7 [VIDEO OUT] Socket
8 [RF DC OUT] Socket
9 [AUDIO OUT L/R] Sockets
10 [DC IN] Socket
11 Digital Dial
12 [DATE/TIME] Button
13 Eyecup
14 Viewfinder
15 [NEW EDIT E] Socket
16 [S-VIDEO OUT] Socket
17 [FADE] Button
18 [MEMORY] Button
19 [REW/⊟] Button
20 [A.DUB] Button
21 [PAUSE] Button
22 "VTR" Indication Lamp
23 [VTR/CAMERA] Button
24 [RESET] Button
25 [⊟/FF] Button
26 [PLAY] Button
27 [STOP] Button
28 "CAMERA" Indication Lamp


29
30
31
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41
42 43
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46
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49
50
51
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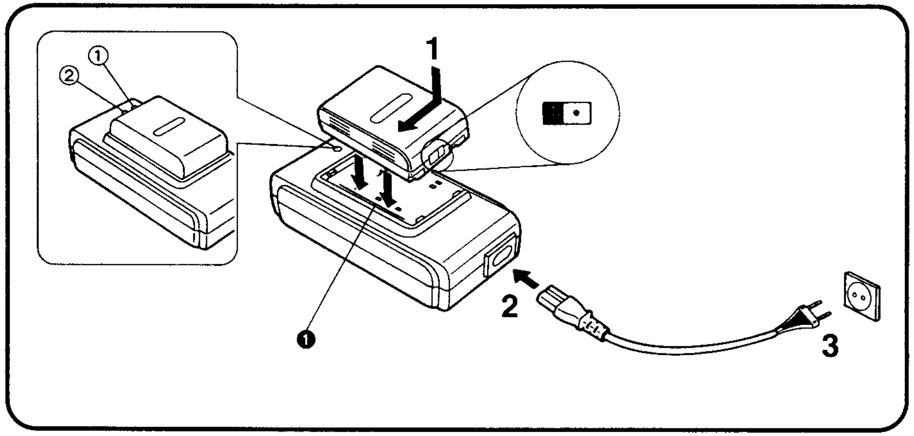
53
54

29 Eyepiece Corrector Ring
30 [POWER SAVE] Switch
31 Battery Eject Lever
32 Start/Stop Button
33 Eyepiece Release Button
34 Viewfinder Brightness/Focus Control [B/F]
35 [SNAPSHOT REC] Button
36 [W • T] Zoom Lever
37 [EJECT] Lever
38 Cassette Compartment
39 [MIC] Socket
40 [OPERATE] Switch
41 Grip Belt
42 Eye Sensor
43 Shoulder Strap Holders
44 Button-Type Battery Compartment
45 Tripod Receptacle
46 Microphone
47 White Balance Sensor
48 Lens Cap
49 Focus Ring
50 [SHUTTER/IRIS] Control
51 [AE] Dial
52 [SHUTTER/IRIS] Button
53 [FOCUS] Button
54 [W.B] Button



[2] How to Charge the Battery Pack

In the following explanations, the supplied AC Adaptor is used.

Notes:

1. When charging the Battery Pack, disconnect the DC Input Cable from the AC Adaptor.
2. Charge the Battery Pack at an ambient temperature between 10°C and 35°C. The Battery Pack's ability to generate electric energy is based on a chemical reaction. This reaction can take place better at high temperatures. Therefore, when shooting at low ambient temperature, the maximum shooting time may be considerably shorter than listed on page 14.
3. If, in spite of normal recharging, the operation time of the Battery Pack becomes too short for practical use, the service life of the Battery Pack has reached its end.
4. Do not recharge the Battery Pack when it is already fully charged.
5. During shooting or during recharging, the Battery Pack may become warm. However, this does not pose any problem.

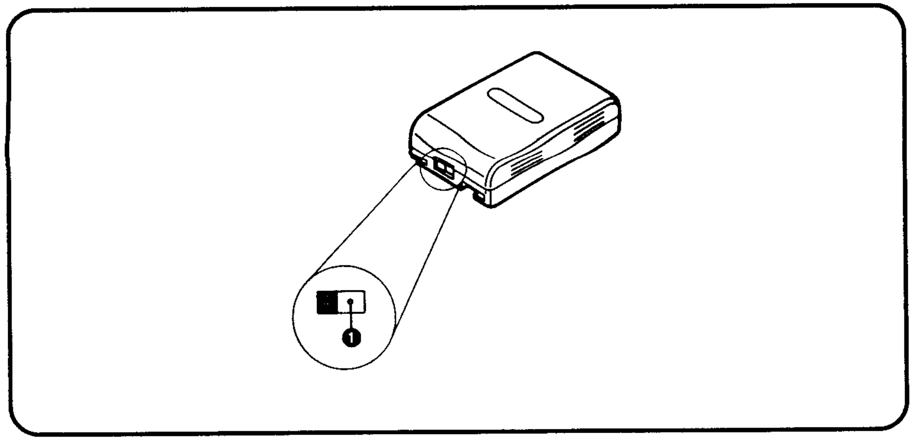
1 **Attach the Battery Pack.**
- Align the Battery Pack with the line ❶ and push it in the direction of the arrow while holding it down. (To remove the Battery Pack, slide it in the opposite direction.)

2 **Securely connect the Mains Cable to the AC Adaptor.**

3 **Securely connect the other end of the Mains Cable to the mains.**
- The Power Lamp ① lights up, and then the Charging Indication Lamp ② lights up, too.

■ Charging Indication Lamp

Lit:	*During charging*
Not lit:	Charging is finished. For optimum charge, continue charging for 2 hours after the lamp goes out.



■ **Hints for Optimum Charging**

If the Battery Pack is left unused after charging, gradual self-discharging will occur. And if it is recharged repeatedly when not yet completely discharged, the "Memory Effect" will occur and the possible operation time becomes shorter. Therefore, pay attention to the following points before using the Battery Pack:

1. Use it until the " ⊠ " Indication in the Viewfinder starts to flash.
2. Recharge it completely.

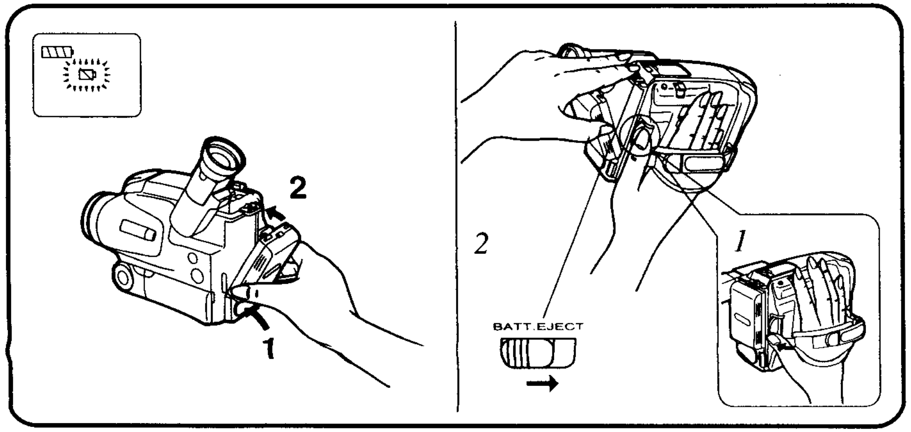
To recharge a Battery Pack whose operation time has become too short for practical use, or which has been stored for a long period of time:
Continue charging for 24 hours even after the Charging Lamp on the AC Adaptor goes out.
(If this does not result in an operation time sufficient for practical use, the service life of this Battery Pack has reached its end. Replace it with a new one.)

■ **Charging Time and Maximum Time for Continuous Shooting**

Battery Pack No.	Charging Time	Max. Shooting Time
Supplied	Approx. 50 min.	Approx. 40 min.
VW-VBS10E	Approx. 50 min.	Approx. 40 min.
VW-VBS20E	Approx. 100 min.	Approx. 80 min.
VW-VBH10E	Approx. 60 min.	Approx. 50 min.
VW-VBH20E	Approx. 120 min.	Approx. 100 min.

■ **If the Battery Pack has a Charging Confirmation Marker**

Use this marker to distinguish between charged and discharged Battery Packs.
For example, slide the knob so that the dot ❶ is visible after the charging is completed.



3 How to Attach the Charged Battery Pack

If an exhausted Battery Pack is attached, the " ⊠ " Indication in the Viewfinder flashes.

1 **Attach the Battery Pack to the lower Battery Pack Holder.**

2 **Press the upper part of the Battery Pack (the side with the Charging Confirmation Marker) towards the Movie Camera until it locks with a click.**

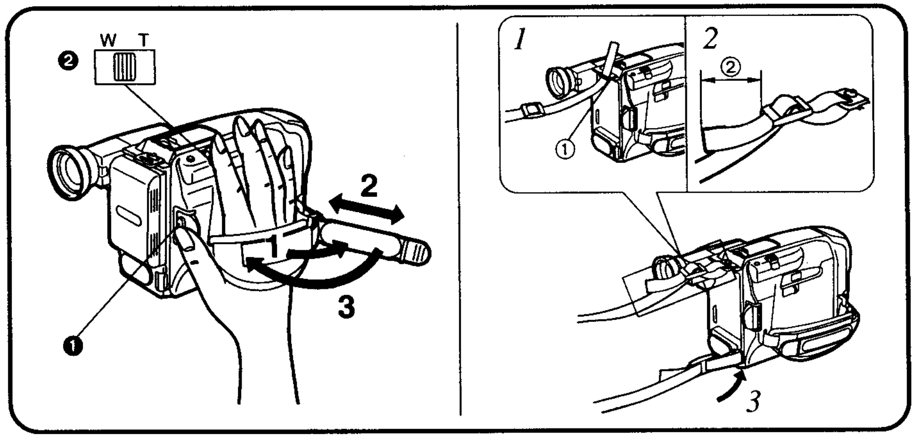
■ **Removing the Battery Pack**

Notes:

1. Never remove the Battery Pack during recording or playback, because the tape would remain in contact with the video heads and this could cause damage to the heads and tape.
2. When sliding the [BATT.EJECT] Lever, be sure to hold the Battery Pack as shown in the illustration above, to prevent it from dropping.

1 **Turn in the [OPERATE] Switch. (The Movie Camera is switched off.)**

2 **Pull off the Battery Pack while sliding the [BATT.EJECT] Lever in the direction of the arrow.**



4 How to Adjust the Grip Belt

■ **Adjusting the Length of the Grip Belt**

Adjust the Grip Belt so that the Start/Stop Button ❶ can be pressed with the thumb and the [W • T] Zoom Lever ❷ can be pushed with the index finger, as shown in the illustration.

1 **Unfasten.**

2 **Adjust the length of the Grip Belt.**

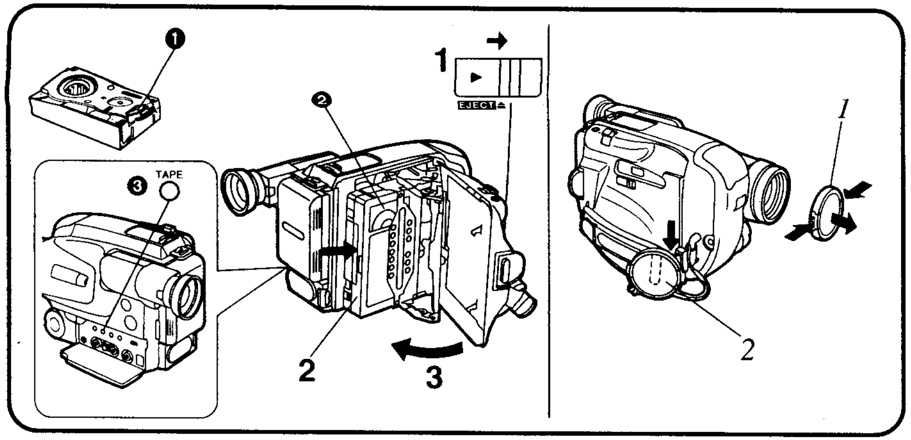
3 **Fasten.**

5 How to Attach the Shoulder Strap

1 **Pull the end of the Shoulder Strap through the Shoulder Strap Holder ①**

2 **Securely attach the end of the Shoulder Strap ② (More than 2 cm).**

3 **Attach the other end of the Shoulder Strap in the same way as above.**



6 How to Insert the Video Cassette

Notes:

1. Use only video cassettes carrying the S-VHS C or VHS C logo.
   C means compact.
   On video cassettes carrying the VHS C logo, it is not possible to record in the S-VHS format.
2. Before inserting the cassette, make sure that the tape is not loose. If it is loose, tighten it by turning the cog wheel ① on the side of the cassette in the direction of the arrow.
3. When a blank (unrecorded) video cassette is inserted, a picture which contains only picture noise will be played back for a short moment in the Viewfinder.

1 Slide.
- After a few seconds, the Cassette Compartment Cover opens completely.

2 Insert the video cassette with the cassette window ② facing outward.

3 Close the Cassette Compartment Cover.

■ Ejecting the Video Cassette

Slide the [EJECT] Lever and pull out the Video Cassette. Close the Cassette Compartment Cover.

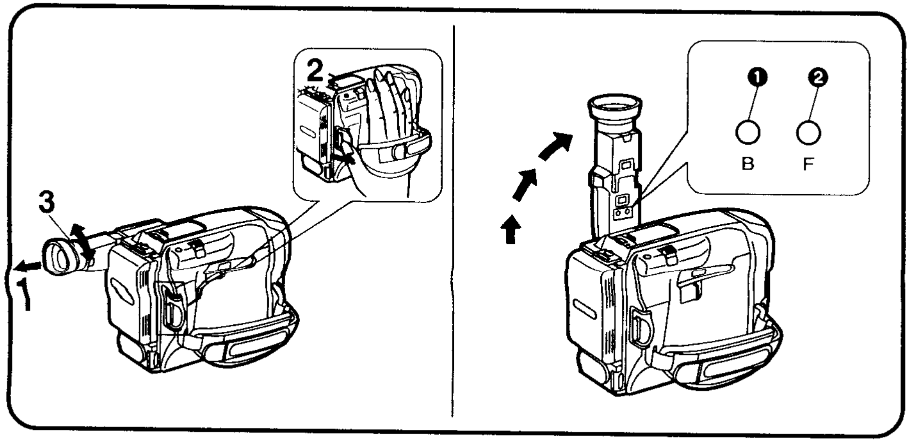
■ When Inserting an EC45-type Video Cassette

Press the [TAPE] Button ③ to change the Tape Length Indication in the Viewfinder to " ▭ 45" so that the Remaining Tape Time Indication will be correct.

7 How to Remove the Lens Cap

1 **Press on both sides of the Lens Cap and pull it off.**

2 **Hook the Lens Cap onto the Grip Belt to prevent it from getting in front of the Lens.**



8 How to Extend the Viewfinder

To ready the Movie Camera for shooting, hold it by the knobs on its left and right side and pull it to its fully extended position.

Notes:

1. When extending the Viewfinder, do not grasp it by the Eyecup.
   The Eyecup could become detached from the Viewfinder.
2. Do not apply any pressure on the Viewfinder except when extending or retracting it.
3. Be sure to retract the Viewfinder after shooting.

9 How to Adjust the Viewfinder

■ Adjusting the Eyepiece of the Viewfinder

Adjusting the Eyepiece precisely to your eyesight ensures that you see the picture and indications in the Viewfinder with maximum clarity and sharpness.

1 Extend the Viewfinder.

2 Turn out the [OPERATE] Switch. (The Movie Camera is switched on.)

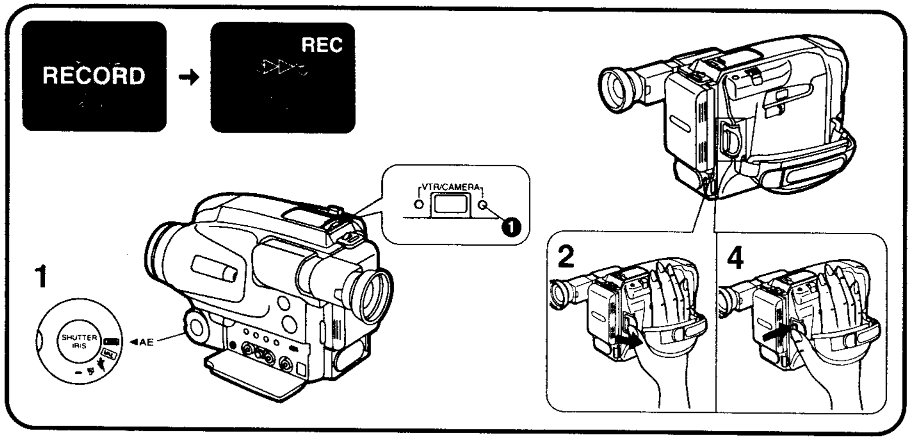
3 While looking into the Viewfinder, turn the Eyepiece Corrector Ring and stop it at the position where the indications in the Viewfinder can be seen most clearly.

■ Adjusting the Brightness and Focus of the Viewfinder

- When the picture in the Viewfinder is too bright or too dark, adjust with the Viewfinder Brightness Control ①.
- When the picture in the Viewfinder is out of focus, adjust with the Viewfinder Focus Control ②.

■ Adjusting the Angle of the Viewfinder

The tilting range of the Viewfinder is 90° (4 positions are marked by click stops).



Shooting

1 How to Shoot from the Beginning of the Video Cassette

Note:

If the Movie Camera is left in the Shooting Pause Mode for more than 6 minutes, it will automatically switch off to protect the tape and to conserve Battery Pack power. This condition is called "Recording Lock" (the tape remains in contact with the video heads).
To resume shooting from this condition, turn in the [OPERATE] Switch (the Movie Camera is switched off) and then turn it out again.
If the Movie Camera is left in the Recording Lock Mode for more than 48 hours, the Recording Lock Mode will be cancelled and the Movie Camera will automatically switch itself off.

After attaching the Battery Pack and removing the Lens Cap, start shooting as follows:

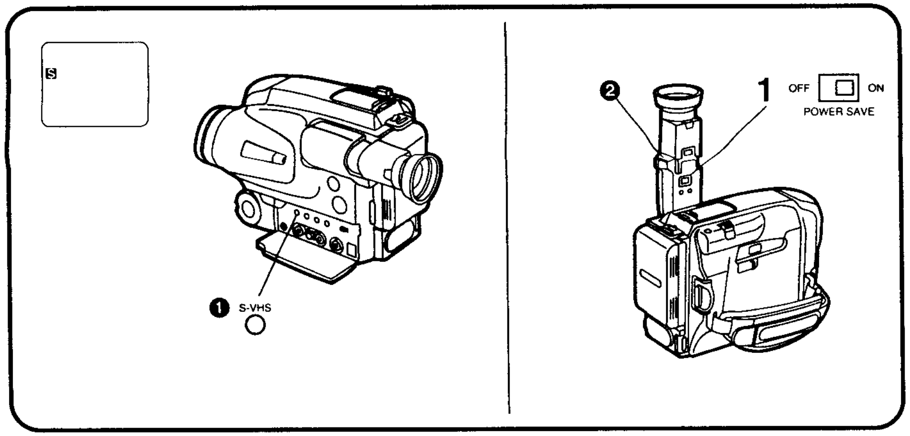
1 Confirm that the [AE] Dial is set to "AUTO".

2 Turn out the [OPERATE] Switch. (The Movie Camera is switched on.)
- The "CAMERA" Indication Lamp ① is lit.

3 Insert a cassette with intact erasure prevention tab.
- See "How to Insert the Video Cassette".
- The "PAUSE" Indication appears in the Viewfinder.

> **When putting the Movie Camera in the Shooting Pause Mode, a playback picture may be displayed briefly (for 0.1–0.5 second) in the Viewfinder. However, this is for checking the VITC number and is not malfunction.**

4 Press.
- The Tape Run Indication "▷▷" and the "REC" Indication appear in the Viewfinder. The shooting starts.



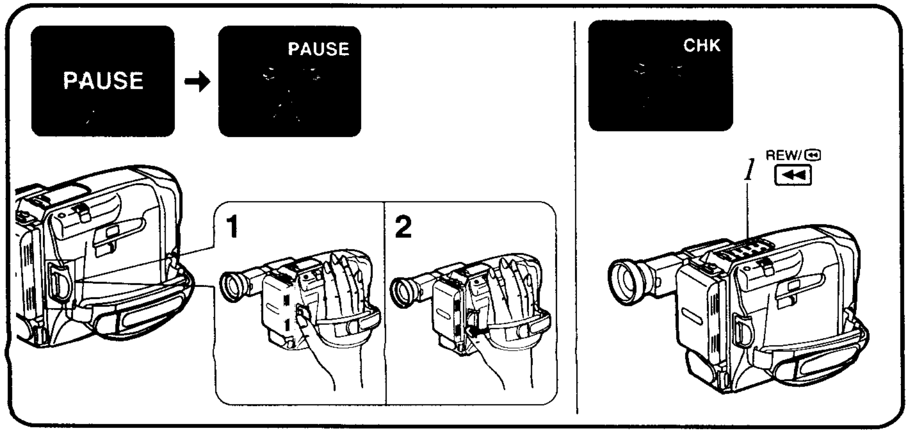
■ **Selecting the Desired Recording Format**
By pressing the [S-VHS] Button ❶ repeatedly, the recording format can be changed between the S-VHS mode and the VHS mode.
When the S-VHS mode is selected, the indication "S" is displayed in the Viewfinder. (However, when a normal VHS-C video cassette is inserted in the Movie Camera, the indication "S" does not appear, because recording in the S-VHS mode is not possible on a normal VHS-C video cassette.)

■ **Auto Power Save Function**
When the Movie Camera is in the shooting pause mode but you are not looking into the Viewfinder, the Viewfinder will be turned off automatically to prevent unnecessary power consumption.
The "Eye Sensor" ❷ installed on the underside of the Viewfinder measures the distance between the Viewfinder and your cheek. At the same time, the Auto Focus Function, the Digital Zoom Function, and the Digital Image Stabilizer Function will be cancelled.

Notes:
- The distance at which the Auto Power Save Function turns off the Viewfinder may vary slightly depending on the actual conditions of use.
- The Auto Power Save Function works even if there is no video cassette in the Movie Camera.
- When using the AC Adaptor, the Auto Focus Function, Digital Zoom Function and Digital Image Stabilizer Function are not cancelled.
- If the "Eye Sensor" is exposed to direct sunlight, the Auto Power Save Function may not work.

1 Set the [POWER SAVE] Switch to "ON".
The Auto Power Save Function is activated.

The Auto Power Save Function does not work in the following conditions.
- During shooting.
- In the VTR mode.



■ **To Pause the Shooting**

1 Press the Start/Stop Button.

■ **To Stop the Shooting**

2 After putting the Movie Camera into the Shooting Pause Mode, turn in the [OPERATE] Switch. (The Movie Camera is switched off.)

[2] How to Check the End of the Recorded Scene

For especially important scenes, use this check function during shooting to confirm from time to time that the recording has been performed correctly.

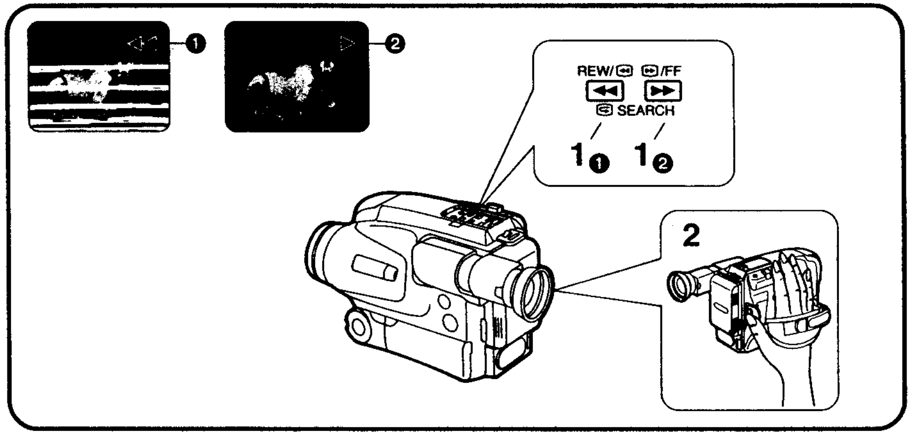
Perform this check in the Shooting Pause Mode.

1 Press while looking into the Viewfinder.
- The "CHK" Indication appears in the Viewfinder. The final 2 seconds of the last recorded scene will be played back in the Viewfinder and then the Movie Camera is again in the Shooting Pause Mode. "CHK" means Check.

[3] Index Signals (VISS)

The "INDEX" Indication (page 114) appears briefly in the Viewfinder while an index signal is being recorded. The index signals make possible the use of the VHS Index Search or Intro Scan Function when playing back the tape on the VTR equipped with these functions.

An index signal is recorded automatically in the following cases:
- When recording is started for the first time after attaching the Battery Pack.
- When recording is restarted after the cassette is exchanged or after playing back the tape by pressing the [PLAY] Button.



[4] How to Smoothly Join a New Scene to a Previously Recorded Scene (Camera Search Function)

Perform the following steps in the Shooting Pause Mode.

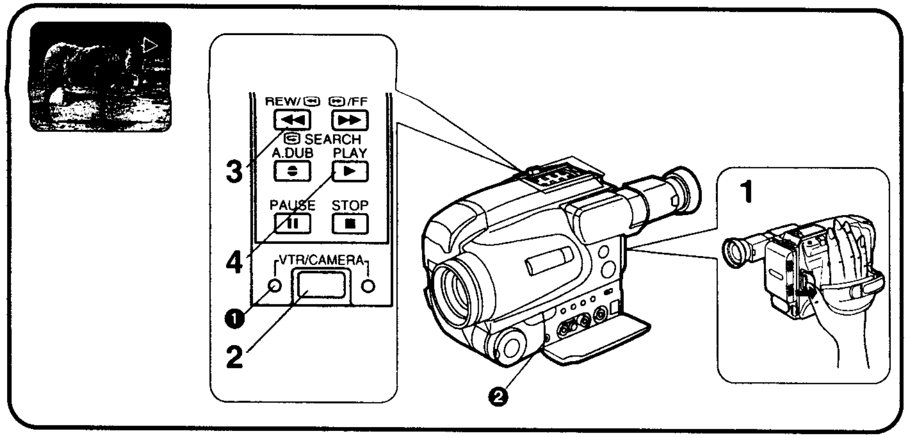
1 Keep pressed for more than 1 second to search for the point where the new recording is to be joined, and release the button as soon as this point is found.

❶ When the [REW/◀◀] Button is kept pressed:
- The Indication "◁◁" appears in the Viewfinder.
- The scene is played back in reverse direction at 3 times normal speed.

❷ When the [▶▶/FF] Button is kept pressed:
- The Indication "▷" appears in the Viewfinder.
- The scene is played back in forward direction at normal speed.

2 Press.
- The shooting of the new scene starts and it is smoothly joined to the previously recorded scene.

■ **If the cassette has been taken out:**
After inserting the cassette, perform the playback operation to search for the point where the new recording is to be joined. Press the [VTR/CAMERA] Button so that the "CAMERA" Indication Lamp lights up. Then perform the above operation.



Playback

[1] How to Play Back via the Viewfinder (Playback from the Beginning of the Tape)

The playback of the recorded tape can be watched in the Viewfinder.

1 **Turn out the [OPERATE] Switch. (The Movie Camera is switched on and the "CAMERA" Indication Lamp is lit.)**

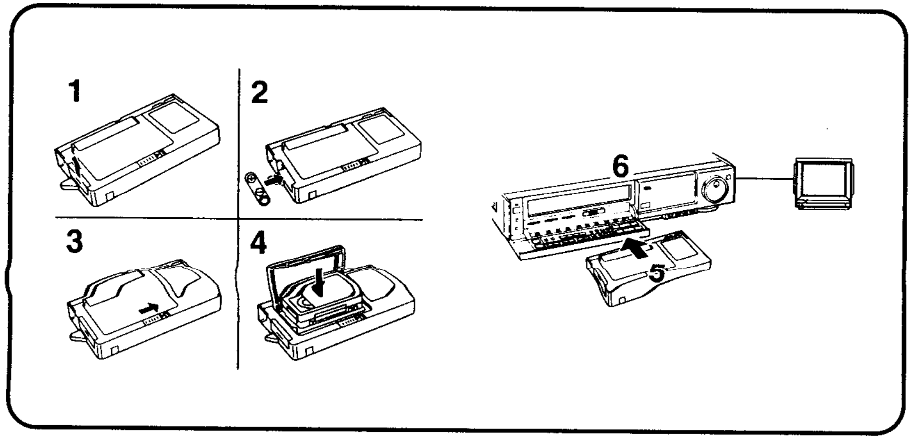
2 **Press the [VTR/CAMERA] Button.**
- The "VTR" Indication Lamp ❶ lights up instead of the "CAMERA" Indication Lamp.

3 **Press.**
- The tape will stop automatically when it reaches its beginning.

4 **Press.**
- The playback starts.
  The Playback Indication "▷" appears in the Viewfinder.
- The tape will be rewound automatically when it reaches its end.

■ **To Stop the Playback**
Press the [STOP] Button.

■ **For Playback with Sound**
To be able to enjoy the playback with the recorded sound, connect stereo headphones (optional) to the [PHONES] Socket ❷.
(When playing back a cassette tape on which audio dubbing has been performed, refer to.)



[2] How to Play Back on a VTR (Using the Supplied Cassette Adaptor)

Notes:
1. Never insert the empty Cassette Adaptor (without a Video Cassette) into a VTR.
2. Do not insert the Cassette Adaptor into a VTR and take it out again without running the tape, because this could loosen the tape.
3. When loading the Video Cassette into the Cassette Adaptor, be careful not to touch the tape. After use, take out the Video Cassette from the Cassette Adaptor.
4. For optimum picture quality, it may be necessary to adjust the tracking control on the VTR.
5. When your VTR is a standard VHS VTR (carrying the VHS logo), shoot with this Movie Camera in the VHS format, even when using S-VHS-C video cassettes. If an S-VHS recording is played back on a standard VHS VTR, the picture will be totally distorted.

A standard VHS VTR that also carries the "SQPB" logo (S-VHS-Quasi Playback), on the other hand, is capable of playing back S-VHS recordings.

1 **Push the Battery Compartment Cover upward and remove it.**

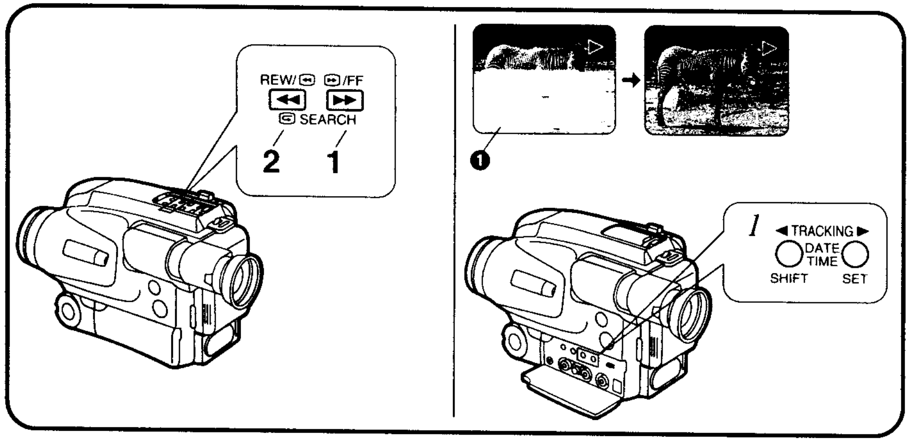
2 **Insert the supplied battery and attach the Battery Compartment Cover.**

3 **Slide the Open Lever.**

4 **Insert the recorded Video Cassette and close the Top Cover.**

5 **Insert the Cassette Adaptor into the VTR.**

6 **Start the playback operation of the VTR.**



[3] How to Rewind or Fast-Forward the Tape

Perform the following operations with the Movie Camera in VTR Mode ("VTR" Indication Lamp is lit) and in the Stop Mode.

■ **For Fast-Forwarding**

1 **Press the [⊝/FF] Button to wind the tape forward at high speed.**
- When the tape reaches its end, it will be rewound automatically.

■ **For Rewinding**

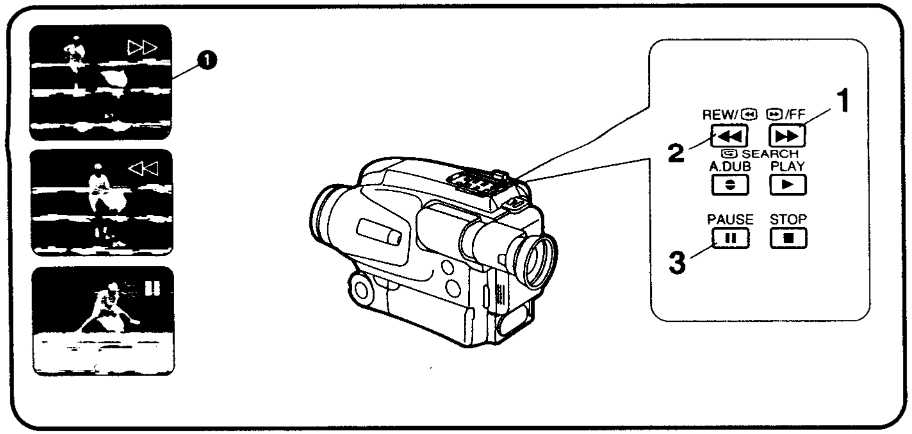
2 **Press the [REW/⊝] Button to rewind the tape at high speed.**
- When the tape reaches its beginning, it will stop automatically.

[4] How to Adjust the Tracking

■ **Purpose of the Tracking Adjustment**
When playing back a recorded tape, especially a tape recorded on another Movie Camera, horizontal bands of white noise ❶ may appear in the picture. This occurs when the video heads don't precisely trace the recorded video tracks during playback. Adjusting the tracking pattern of the heads is called tracking adjustment.

1 **Press both the [◀ TRACKING] and [TRACKING ▶] Buttons simultaneously.**

Note:
If pressing both buttons simultaneously does not improve the picture quality, adjust by pressing the [◀ TRACKING] or [TRACKING ▶] Button individually.
(It may not be possible to remove the noise bars completely.)



[5] How to Use the Cue, Review and Still Playback Functions during Normal Playback

Notes:

1. The sound will be played back only during normal playback.
2. In the Cue, Review and Still Playback Modes, horizontal noise bars ❶ appear in the picture, or the picture may become black and white or distorted. However, this is normal and not an indication of a malfunction.

■ **For Cue Playback**

1 **Keep pressed.**
- The Fast Forward/Cue Mode Indication "▷▷" appears in the Viewfinder.

■ **For Review Playback**

2 **Keep pressed.**
- The Rewind/Review Mode Indication "◁◁" appears in the Viewfinder.

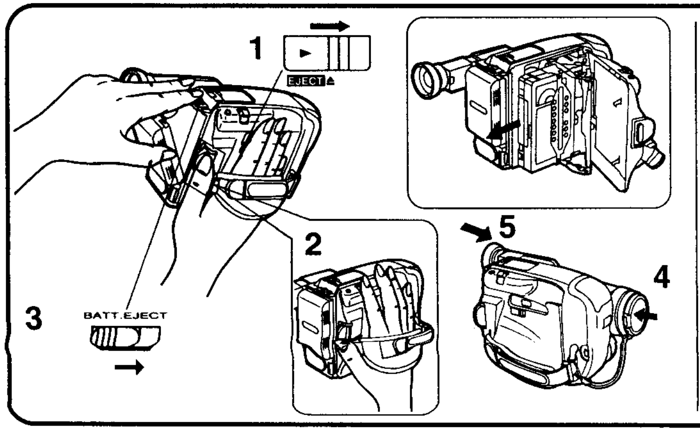
■ **For Still Playback**

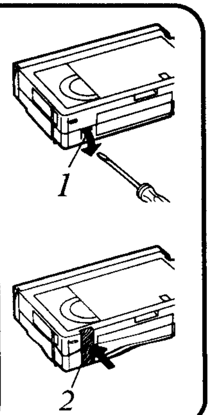
3 **Press.**
- The Still Playback Mode Indication "❚❚" appears in the Viewfinder.

To Resume Normal Playback

Press the [PAUSE] Button again.

If the Movie Camera is left in the Still Playback Mode for about 6 minutes, it will switch over to the Stop Mode, to protect the tape and the video heads.





After Use

1 **Slide the Lever and remove the video cassette.**

2 **Turn in the [OPERATE] Switch. (The Movie Camera is switched off.)**

3 **Slide the Lever and remove the Battery Pack.**

4 **Attach the Lens Cap.**

5 **Retract the Viewfinder.**

■ **When the Movie Camera is not Going to Be Used for a Long Period of Time**

Turn on the Movie Camera occasionally to prevent malfunction.

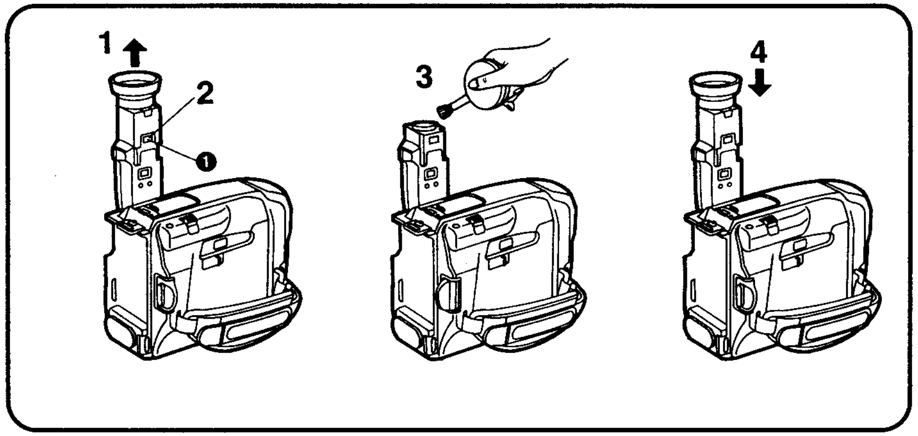
How to Prevent Accidental Erasure of Recordings

When recording on a previously recorded tape, the previously recorded contents will be erased. To protect important recordings against accidental erasure:

1 **Break off the tab with a screwdriver.**
- If the tab is removed, recording on this video cassette is no longer possible. (Some cassettes have sliding-type tabs.)

■ **Recording again onto a Video Cassette with Removed Tab**

2 **Firmly cover the hole where the tab was removed with two layers of adhesive tape (to substitute for the broken out tab).**



Cleaning

[1] How to Clean the Viewfinder

If dust has entered the Viewfinder, clean it in the following way:

1 **Extend the Viewfinder.**

2 **While pressing the button ❶, grasp the Eyecup by the knobs on both sides of it and pull it off in the direction of the arrow.**

3 **Remove dust with a blower brush.**

4 **Reattach the Eyecup.**

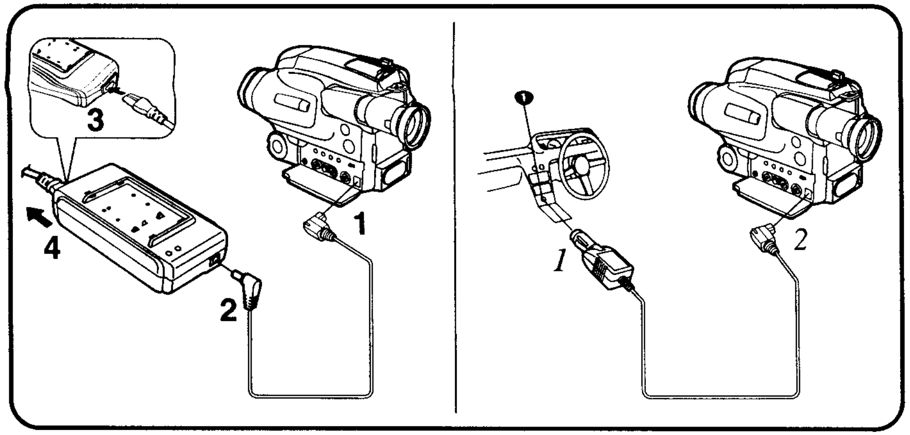
[2] How to Clean the Movie Camera

Notes:

1. Do not use benzine, thinner or other chemicals for cleaning, because they could change the colour and damage the surface of the camera body.
2. When using a chemically treated cloth for cleaning, carefully follow the instructions for its use.
   - Wipe the Movie Camera with a clean, dry cloth. Never use cleaning fluids or other chemicals.
   - Clean the lens only with a blower brush (used for photo cameras) or special lens cleaning tissue (used for glasses and cameras).

■ **Cleaning the AC Adaptor**

Before cleaning the AC Adaptor, make sure that it is disconnected from the AC mains socket.



Power Supply

1 How to Use the AC Adaptor as Power Supply Unit

Note:
When using the AC Adaptor to supply the Movie Camera with power, do not attach the Battery Pack to the AC Adaptor or the Movie Camera.

1 **Connect the DC Input Cable to the [DC IN] Socket on the Movie Camera.**

2 **Connect the other end of the cable to the DC Output Socket on the AC Adaptor.**

3 **Connect the AC Mains Cable to the AC Adaptor.**

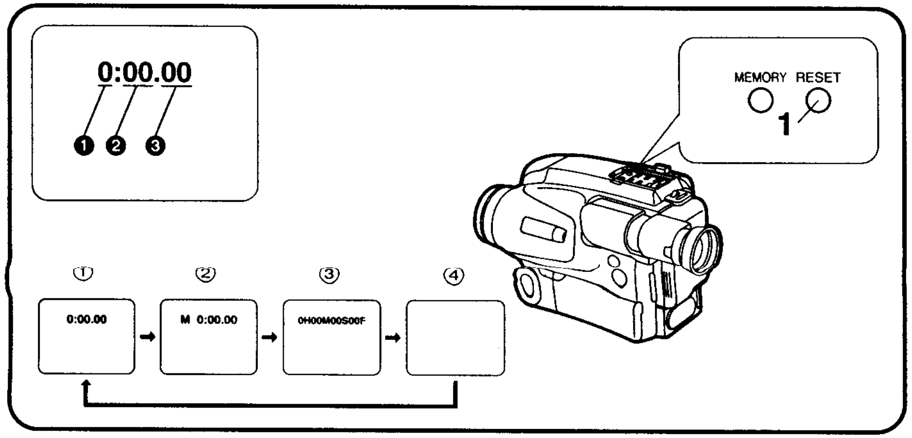
4 **Connect the other end of the AC Mains Cable to the mains.**

2 How to Use the Car Battery Cord (optional)

Notes:
1. The Car Battery Cord can only be used with 12 V DC negative-grounded vehicles.
2. Do not start the car engine while the Movie Camera is powered by the car battery.
3. If the voltage drops suddenly, e.g. when the heater in the car is turned on, the Movie Camera is automatically turned off to protect it. Wait about 10 seconds before turning it on again.

1 **Start the engine and then plug the Car Battery Cord into the cigarette lighter socket ❶.**

2 **Connect the other end of the cord to the [DC IN] Socket on the Movie Camera.**



How to Use the Tape Counter Indication

■ For Checking the Elapsed Tape Time

Notes:
1. The Tape Counter Indication does not change during playback of parts on which no recording has been made.
2. Taking out the Cassette or removing the Battery Pack automatically resets the Tape Counter Indication to "0:00.00".
3. When the tape is rewound further than the tape counter position "0:00.00", the minus sign "–" appears in front of the Tape Counter Indication.

The Tape Counter in the Viewfinder shows the time in hours ❶, minutes ❷ and seconds ❸.

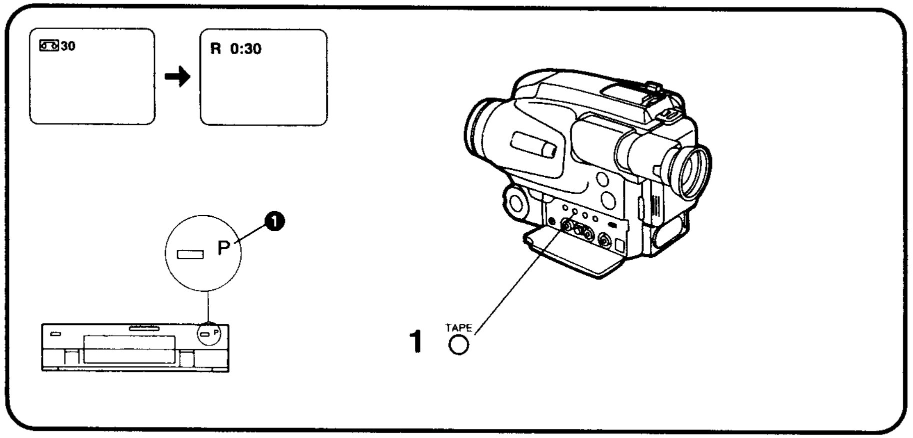
Resetting the Tape Counter to "0:00.00" by pressing the [RESET] Button before starting to shoot makes it easy to keep track of the elapsed recording time.

1 **Press.**

■ The Counter Indication Changes as Follows:
When the [MEMORY] Button is pressed repeatedly, the Counter indication changes as shown in the illustrations ①, ②, ③, ④ above.

■ Memory Function
When the Memory Indication "M" is turned on, the tape will stop automatically at the "0:00.00" position when rewinding or fast-forwarding it.

■ VITC Function
The indication "0H00M00S00F" ③ is the VITC Counter Indication (page 90).
- It is not possible to reset the VITC Counter with the [RESET] Button.

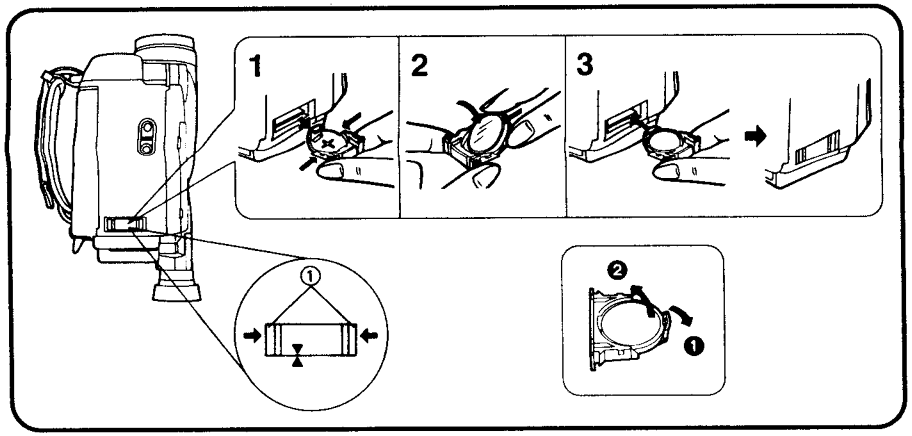


How to Confirm the Remaining Tape Time

Notes:
1. The Remaining Tape Time is not displayed until shooting or playback is started.
2. While the Movie Camera calculates the Remaining Tape Time, the "R" Indication flashes in the Viewfinder. "R" means Remaining.
3. When the Remaining Tape Time becomes less than 2 minutes, the Indication "R" and the Remaining Tape Time start to flash.
4. When using a video cassette carrying the "P" mark ❶ or an S-VHS-C video cassette, the Tape Counter Indication may not be very precise.

1 **Press.**
- Select the Tape Length Indication ("▭ 30" or "▭ 45") that matches the video cassette being used.
- During shooting and playback, the remaining tape time is displayed in minutes instead of the Tape Length Indication "▭ 30" or "▭ 45".

■ To Check the Tape Length of the Video Cassette Being Used While the Remaining Tape Time is Displayed:
Press the [TAPE] Button.
- The Tape Length Indication "▭ 30" or "▭ 45" is displayed for approx. 2 seconds, and then the Remaining Tape Time Indication will again appear instead of it.



How to Record the Date and Time during Shooting

[1] How to Insert the Button-Type Battery

There is a Battery Holder inserted into the bottom side of the Movie Camera.

1 **Pull out the Battery Holder while pushing the two stoppers ① toward each other.**

2 **Install the Battery with the (+) mark facing downward until it locks with a click.**

3 **Align the "▲" marks and insert the Battery Holder into the Movie Camera.**

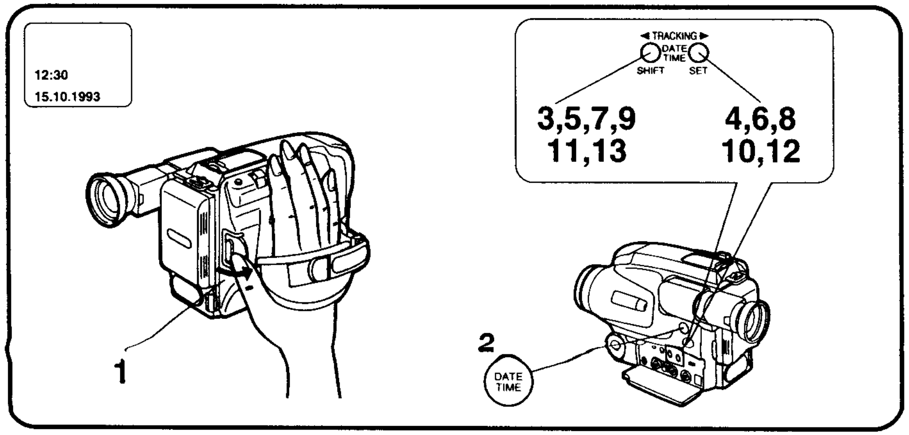
■ **Removing the Button-Type Battery**

❶ While pushing,

❷ remove.

■ **Replacing the Button-Type Battery from the Battery Holder**

The life of the battery is about one year. When the battery becomes exhausted, the " ⊗ " Indication in the Viewfinder starts to flash. Replace the exhausted battery with a new CR2032 Battery.



[2] Setting the Date and Time

Attach the charged Battery Pack or connect the AC Adaptor to the Movie Camera.

For example:
To set the clock to 15th October, 1993, 12:30.

1 **Turn out the [OPERATE] Switch. (The Movie Camera is switched on.)**
- When the Button-Type Battery is not inserted, the " ⊗ " Indication flashes. Insert the Button-Type Battery.

2 **Press.**
- The Date Indication appears.

3 **Keep pressed to make the "Year" portion flash.**

4 **Press to set to "1993".**

5 **Press to make the "Month" portion flash.**

6 **Press to set to "10".**

7 **Press to make the "Day" portion flash.**

8 **Press to set to "15".**

9 **Press to make the "Hour" portion flash.**

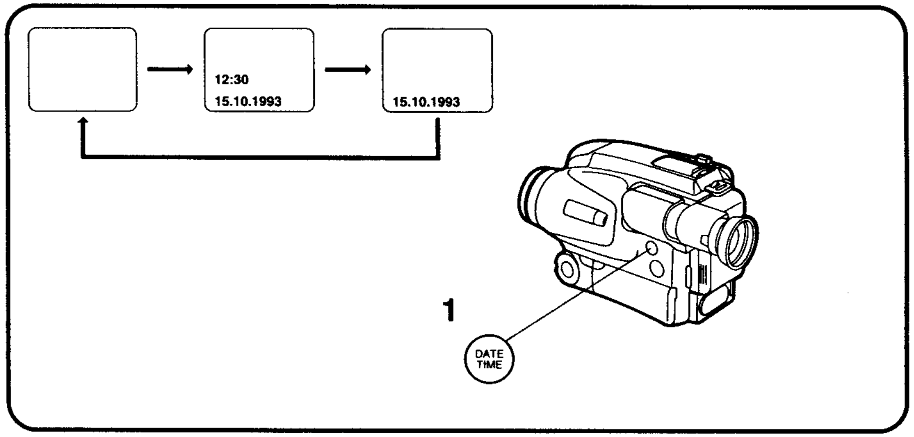
10 **Press to set to "12".**

11 **Press to make the "Minute" portion flash.**

12 **Press to set to "30".**

13 **Press.**
- The operation of the clock starts.

When the [SET] Button is kept pressed, the figures change more quickly.



■ **In Case of a Mistake during Setting, Restart the Setting from Step 3.**

■ **Changing the Figures of the Date/Time Indication**

By pressing the [SET] Button repeatedly, the Date/Time Indication can be changed in the following order.

For example:
Year: **1990**→1991→ .... 2089→**1990**→...
Month: **1**→2→ .... →12→**1**→...
Day: **1**→2→ .... →31→**1**→...
Hour: **0**→1→ .... →23→**0**→...
Minute: **00**→01→ .... →59→**00**→...

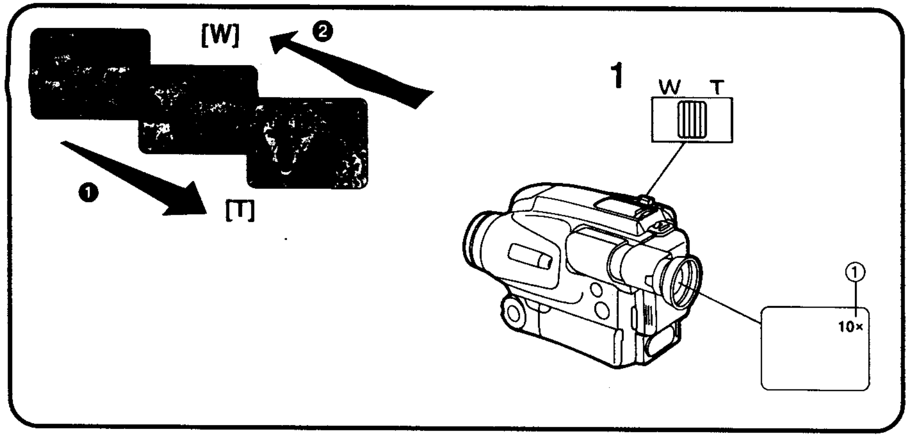
[3] Inserting and Deleting the Date and Time

The Date and Time Indications can be inserted and deleted during shooting as well as in the Shooting Pause Mode.

1 **Press.**
- By pressing this button repeatedly, the Date/Time Indication in the Viewfinder can be changed in the following order. Select the desired indication.

12:30
→No indication→15.10.1993→15.10.1993—
Date and Time   Date only

- Even if the date is not displayed in the Viewfinder during shooting, it is always recorded as part of the camera information. It can be checked in the Viewfinder during playback by pressing the [DATE/TIME] Button. In addition, the picture signal which includes the date information is output through the [VIDEO OUT] Socket.



How to Make the Subject Larger or Smaller During Shooting

Notes:

1. The zoom range extends from 1× to 10×.
2. The zooming speed changes according to the position of the [W • T] Zoom Lever (the farther it is pushed toward either the "W" or "T" position, the faster the zooming speed becomes).
3. In the maximum tele setting, the focus can be adjusted only for subjects at a distance of more than 1.2 m between lens and subject.

1 Push the [W • T] Zoom Lever toward "T" or "W".

- The Zoom Magnification Indication ① appears in the Viewfinder.

■ Making a Subject Gradually Larger (Zooming in ❶)

Push the [W • T] Zoom Lever toward "T".

■ Making a Subject Gradually Smaller (Zooming Out ❷)

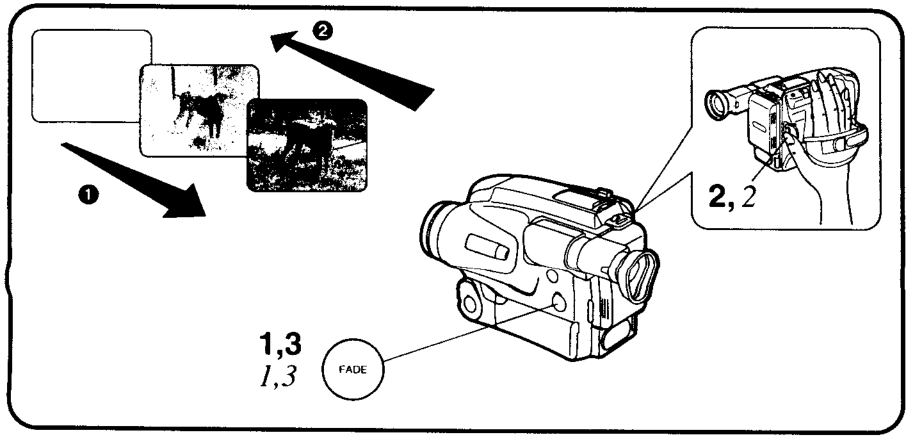
Push the [W • T] Zoom Lever toward "W".

■ Using the Macro Close-up Function

After keeping the [W • T] Zoom Lever pressed toward "W" to zoom to the maximum wide-angle setting, the subject can be focussed down to a minimum distance of only 5 mm between lens and subject.

Notes:

1. As the depth of field is very small in this mode, even slight camera movements can cause the subject to go out of focus. Therefore, it is recommended to use a tripod (optional).
2. When shooting pictures in a photo album or a similar situation with insufficient lighting, use a Video DC Light (optional).



How to Fade in and Fade out Picture and Sound

■ Using the Fade-in and Fade-out Functions

The fading in ❶ and fading out ❷ of picture and sound can easily performed with a single button.

Fade-in

At the beginning of a movie, etc. fading in is often used.. For example, after recording the title, starting the first scene with the Fade-in Function is very effective.

1 Keep pressed in the Shooting Pause Mode.

2 Press after the picture in the Viewfinder has disappeared.

- The shooting starts.

3 Release after approx. 3 seconds.

Fade-out

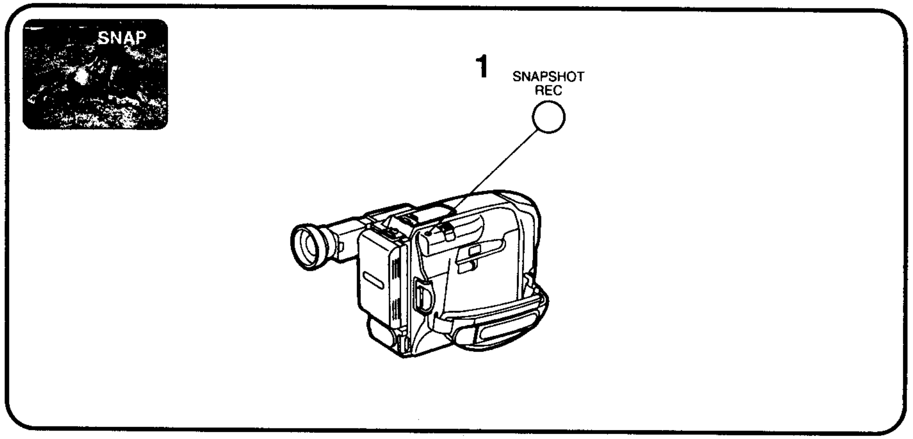
Fading out is used to create a soft ending or (together with fade-in) for a soft transition from one scene to the next.

1 **Press during shooting at the point where you want to fade out.**

2 **Press after the picture in the Viewfinder has disappeared.**

- The Movie Camera is now in the Shooting Pause Mode.

3 **Release.**



How to Shoot a Still Picture for 5 Seconds (Snapshot)

■ Using the Snapshot Function

Recording a still picture for approx. 5 seconds can be performed by pressing a single button.

Notes:

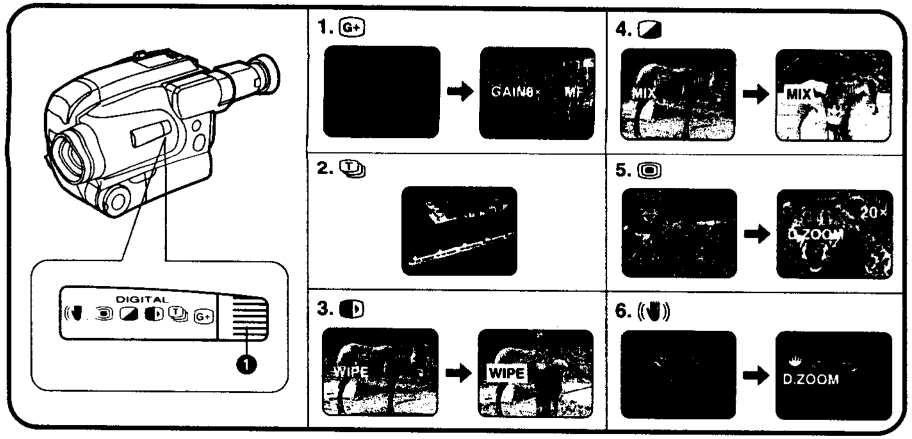
1. Since the still picture is recorded from the image memory, the picture quality may be slightly inferior to that of normally recorded pictures.
2. To prevent picture distortion, do not move or shake the Movie Camera during still picture shooting.

1 Press in the Shooting Pause Mode.

- The image in the Viewfinder stands still and the "SNAP" Indication appears in the Viewfinder.
- The still picture will be recorded for approx. 5 seconds.

Notes:

1. When using this function repeatedly, wait at least 2 to 3 seconds before pressing the [SNAPSHOT REC] Button again.
2. While the Digital Wipe Function or the Digital Mix Function is activated, this function cannot be operated.
3. If the Viewfinder has been turned off by the Auto Power Save Function, the Snapshot Function cannot be activated.



How to Use the Digital Dial

By turning the Digital Dial ❶, the following digital functions can be activated:

1. **(G+) Digital Gain-up Function**
   This function is useful when shooting from the outside into a house, etc.
2. **Digital Tracer Function**
   This function can be used to emphasize the speed of movements in fast-action scenes.
3. **Digital Wipe Function**
4. **Digital Mix Function**
5. **Digital Zoom Function**
   This function is especially practical for shooting a subject in the far distance.
6. **(( ))Digital Image Stabilizer Function**

■ To Cancel the Digital Function

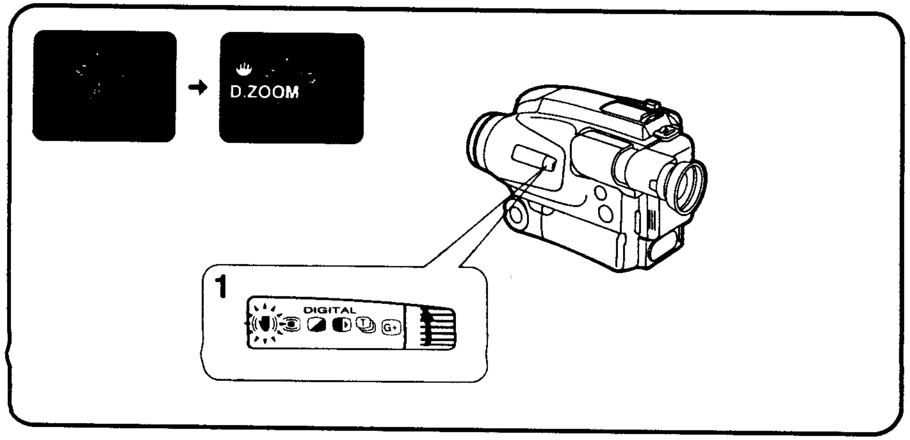
Turn the Digital Dial to the lowermost position so that none of the 6 indications is lit.

Notes for the Digital Gain-up Function

1. When using this function, some after-image distortion may occur.
2. The focus must be adjusted manually since the Movie Camera is automatically put into the Manual Focus Mode.
3. The Sports Mode or the Portrait Mode will be cancelled automatically.

Notes for the Digital Zoom Function

1. When the "D.ZOOM" Indication is displayed in the Viewfinder, the subject can be enlarged up to 20 times.
2. The zooming speed changes according to the position of the [W•T] Zoom Lever (the farther it is pushed toward either the "W" or "T" position the faster the zooming speed becomes).



How to Prevent Shaky Pictures

■ Using the Digital Image Stabilizer Function

Note:
The resolution of the picture will be slightly reduced.

This function is especially practical for the following shooting situations:

1. Zooming in on a distant subject.
2. Shooting while walking.
3. Shooting from inside a moving car.

1 Turn until the " (( )) " Indication is lit.
- The Digital Image Stabilizer Indication " ✋ " appears in the Viewfinder.

In the Following Shooting Conditions, the Picture Stabilizing Effect May not Be Sufficient:

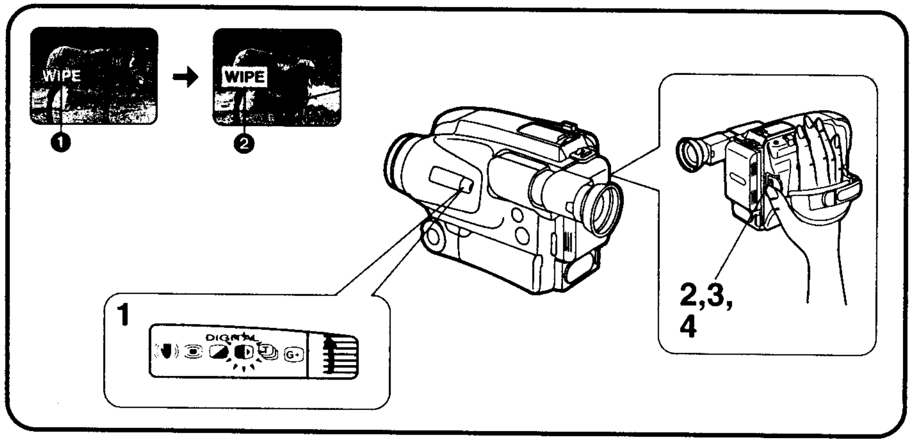
- A subject with horizontal or vertical stripes
- A flat subject
- A dark subject
  (The Digital Image Stabilizer Indication " ✋ " flashes in the Viewfinder.)
  Increase the amount of light.
- A subject under many fluorescent lamps
- A fast-moving subject
- A subject with a flat background

■ To Cancel the Digital Image Stabilizer Function

Turn the Digital Dial to the lowermost position so that none of the 6 indications is lit.

Notes:

1. When using the Digital Image Stabilizer Function, the shutter speed is automatically adjusted to 1/120 s.
2. Cancelling the Digital Image Stabilizer Function also resets the shutter speed to 1/50 s. However, after selecting the Sports Mode or the Portrait Mode, cancelling the Digital Image Stabilizer Function does not reset the shutter speed to 1/50 s.



How to Fade Over from the Last Recorded Scene to the Next (Digital Wipe)

This function makes it possible to achieve a smooth transition from the last recorded scene to the next scene. When starting to shoot the new scene, a still picture of the last scene appears, and it then changes over to the moving picture of the new scene with Digital Wipe (like opening a curtain).

Notes:

1. Since the still picture is recorded from the digital image memory, the picture quality becomes slightly inferior to that of normally recorded pictures.
2. Performing Recording Review or pressing the [VTR/CAMERA] Button does not erase the picture in the digital image memory.

1 Turn until the " " Indication is lit.
- The "WIPE" Indication ❶ appears in the Viewfinder.

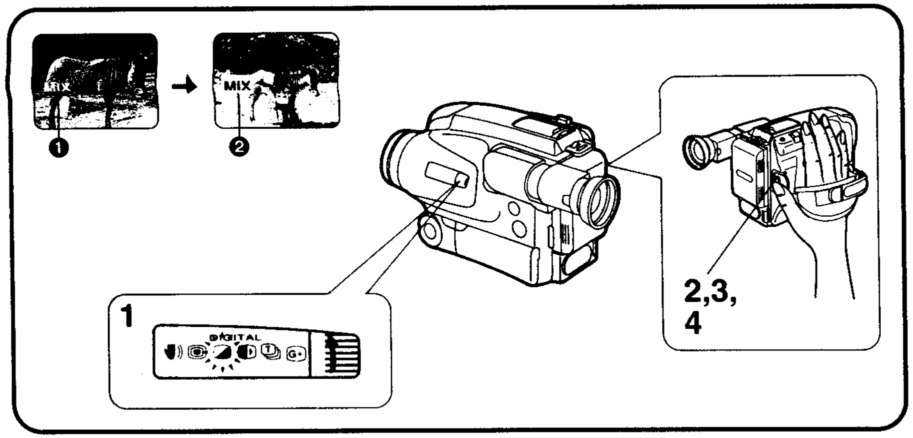
2 Press.
- The shooting starts.

3 Press.
- The shooting stops (Shooting pause Mode).
- The Indication ❶ changes to ❷.
- The last picture of the just recorded scene is kept in the digital image memory.

4 Press.
- The picture (from the memory) appears as still picture. It is then gradually replaced from right to left by the moving picture of the new scene.

■ To Cancel the Digital Wipe Function

Turn the Digital Dial to the lowermost position so that none of the 6 indications is lit.



How to Fade Over from the Last Recorded Scene to the Next (Digital Mix)

This function makes it possible to achieve a smooth transition from the last recorded scene to the next scene. When starting to shoot the new scene, a still picture of the last recorded scene appears, and it is then gradually replaced by the moving picture of the new scene.

Notes:

1. Since the still picture is recorded from the digital image memory, the picture quality becomes slightly inferior to that of normally recorded pictures.
2. Performing Recording Review or pressing the [VTR/ CAMERA] Button does not erase the picture in the digital image memory.

1 Turn until the " ◪ " Indication is lit.
- The "MIX" Indication ❶ appears in the Viewfinder.

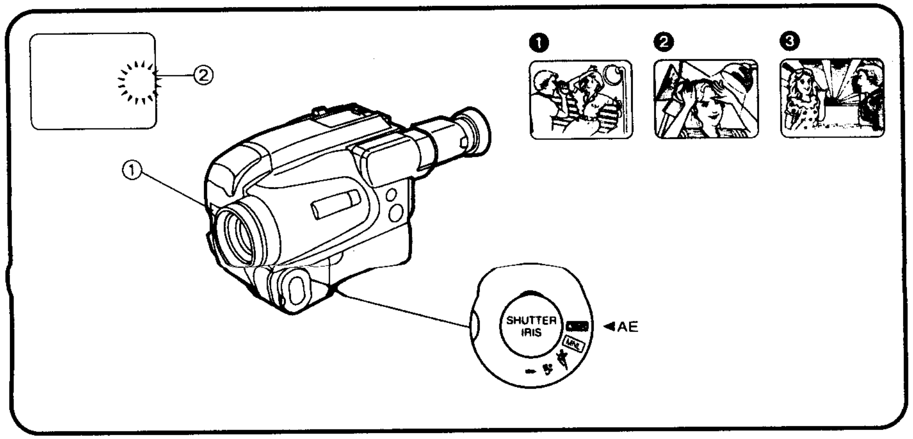
2 Press.
- The shooting starts.

3 Press.
- The shooting stops (Shooting Pause Mode).
- The Indication ❶ changes to ❷.
- The last picture of the just recorded scene is kept in the digital image memory.

4 Press.
- The picture (from the memory) appears as still picture. It is then gradually faded over to the moving picture of the new scene.

■ To Cancel the Digital Mix Function

Turn the Digital Dial to the lowermost position so that none of the 6 indications is lit.



How to Shoot with Natural Colours

[1] How to Shoot with Automatic White Balance Adjustment

When the [AE] Dial is set to "AUTO", it is possible to shoot pictures with natural colours under almost any shooting condition.

Notes:

1. If the Movie Camera is moved from outdoors to indoors while shooting with Automatic White Balance Adjustment, the picture will initially take on a slightly reddish cast but it will gradually regain its natural colours.
2. Be careful not to cover the White Balance Sensor ① with your hand, etc. during shooting.

- When the [AE] Dial is set to a position other than "AUTO" and the " ▣ " Indication is shown in the Viewfinder, press the [W.B] Button to make this indication disappear.
- When the " ▣ " Indication is not visible in the Viewfinder ②, the Movie Camera is in the Automatic White Balance Adjustment Mode.

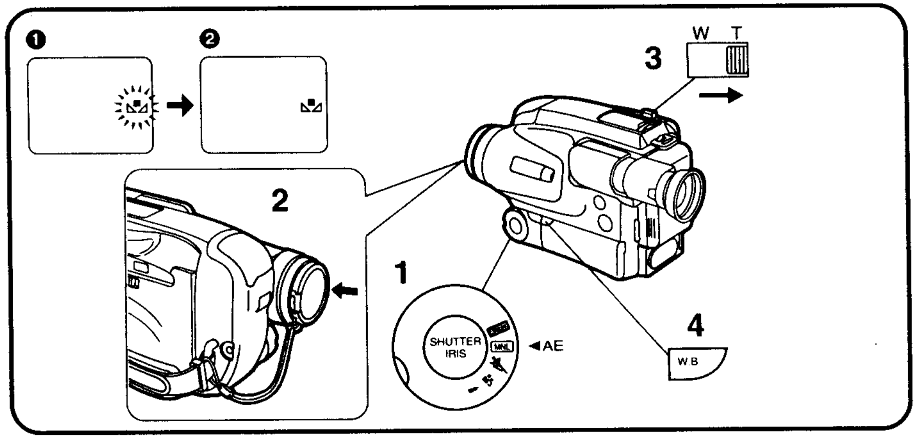
In the following shooting situations, shoot with Manual White Balance Adjustment:

❶ When shooting under mercury-vapor, natrium or some types of fluorescent lamps, etc.

❷ When intense lighting is used, e.g. spot lights in a theatre or when the colour temperature of the light source is low.

❸ When shooting at sunrise or sunset.

- When shooting with an ND Filter (optional) or a Conversion Lens (optional).



[2] How to Shoot with Manual White Balance Adjustment

Notes:

1. Under weak illumination, Manual White Balance Adjustment may not be possible. In this case, shoot in the "AUTO" Mode.
2. If an additional light source with low colour temperature (e.g. halogen lamp) is used momentarily while shooting a subject with high colour temperature (e.g. blue sky or TV screen), unnatural colours will result.
3. The manually adjusted white balance setting will be maintained until it is cancelled. However, to ensure optimum colour reproduction, it is recommended to adjust the white balance for each new scene.

If there is only one light source:

1 Set to a position other than "AUTO".
- The "MNL" Indication appears in the Viewfinder.

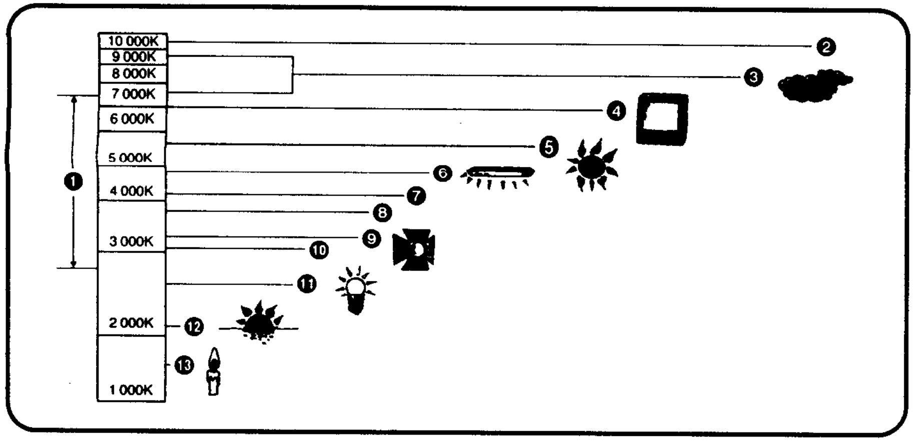
2 Attach the Lens Cap.
- If there are several light sources or if the illumination is weak: Remove the Lens Cap and point the Movie Camera at a pure white subject.

3 Keep the [W•T] Zoom Lever pushed toward "T" until the Viewfinder Screen becomes completely white.

4 Keep pressed for more than 1 second.
- The " ▣ " Indication flashes ❶ during the Manual White Balance Adjustment. After the Manual White Balance Adjustment is finished, the " ▣ " Indication remains lit ❷.

■ To Return to Automatic White Balance Adjustment

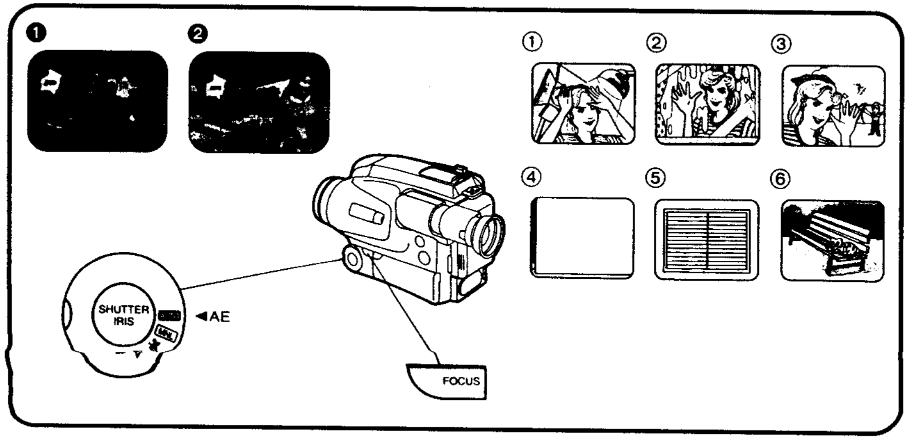
Press the [W.B] Button one time. Or reset the [AE] Dial to "AUTO".



Colour Temperature and White Balance

The colour temperature of the light source is measured in Kelvin. The higher the Kelvin value is, the more bluish is the light; the lower the value, the more reddish is the light. This is not directly related to the brightness.
The table shows the relationship between natural light, artificial light and colour temperature.

❶ Control range of the Auto White Balance Function
❷ Blue sky
❸ Cloudy sky (rain)
❹ TV screen
❺ Sunlight
❻ White fluorescent light
❼ 2 hours after sunrise or before sunset
❽ 1 hour after sunrise or before sunset
❾ Halogen light bulb
❿ 30 minutes after sunrise or before sunset
⓫ Incandescent electric light bulb
⓬ Sunrise or sunset
⓭ Candlelight



How to Adjust the Focus

Select the Auto Focus Mode or the Manual Focus Mode according to the conditions of the subject or the surroundings.

[1] How to Shoot with the Auto Focus Mode

When the [AE] Dial is set to "AUTO", the Movie Camera will automatically focus precisely on almost any subject.

Notes:

- The focus is automatically adjusted to the subject in the centre of the Viewfinder. Aim the Movie Camera so that the subject is in the centre of the Viewfinder as shown in illustration ❶.

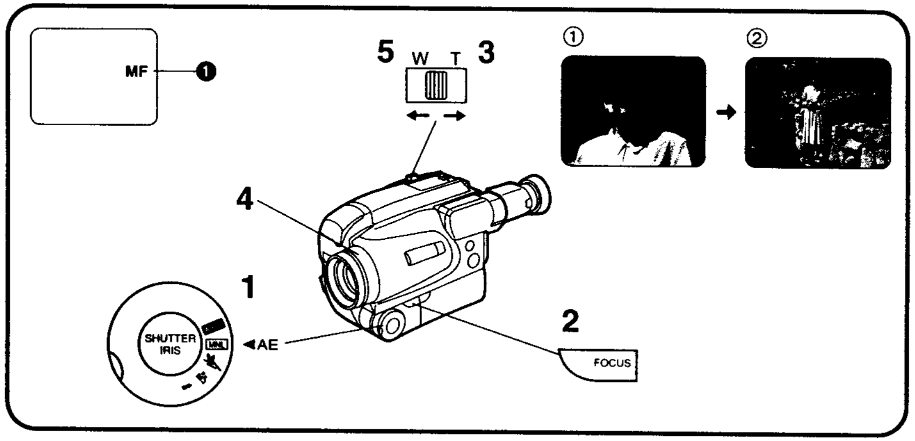
❶ Correct ❷ Wrong

- When the [AE] Dial is set to a position other than "AUTO", and the "MF" Indication is shown in the Viewfinder, press the [FOCUS] Button to make the "MF" Indication disappear.

Notes:
In the following shooting situations, use the Manual Focus Mode:

① A subject with shiny surfaces or much light reflection.
② A subject behind glass that is covered with dirt, dust or water drops.
③ A subject with a part of it near the Movie Camera and another part far away from it.
④ A flat surface, e.g. a white wall.
⑤ A subject with horizontal stripes.
⑥ An oblique subject.

- A fast-moving subject.
- A subject with a dark surface.
- When using the Macro Close-up Function, special lenses or filters.



[2] How to Shoot with the Manual Focus Mode

1 **Set to a position other than "AUTO".**

2 **Press.**
- The "MF" Indication ❶ appears in the Viewfinder. "MF" means Manual Focus.

3 **Keep pushed toward "T" to zoom in on the subject.**

4 **Turn the Focus Ring to adjust the focus.**

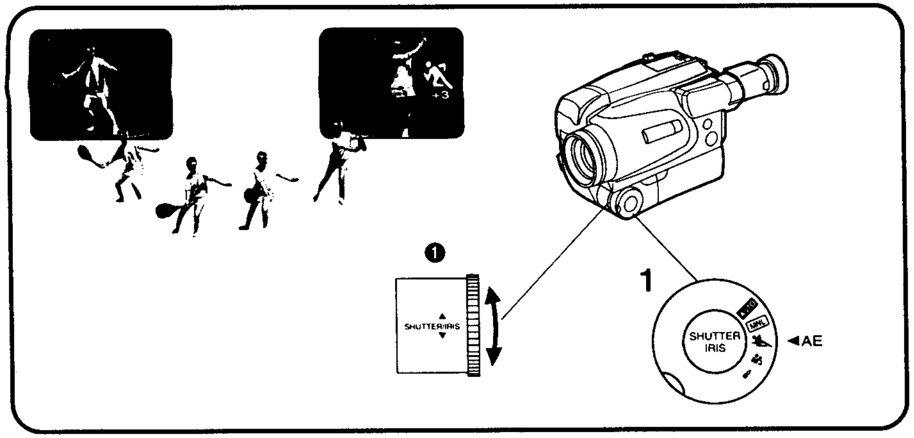
5 **Push toward "W" to zoom out as desired.**

■ To Cancel the Manual Focus Mode

Press the [FOCUS] Button to make the "MF" Indication disappear.
Or reset the [AE] Dial to "AUTO".

Hints for Manual Focus Adjustment

① Be sure to adjust the focus after zooming in on the subject.
② Adjusting the focus with the lens zoomed in on the subject assures precisely focussed pictures even when subsequently zooming out.
  - If the focus is adjusted with the lens in the wide-angle setting, the subject may go out of focus when zooming in on the subject.



How to Shoot Fast-Moving Subjects

■ Using the Sports Mode

In the Sports Mode, the shutter speed is automatically adjusted (between 1/50 s and 1/500 s) according to the subject, so even fast movements will be captured in sharp and stable pictures.

When scenes recorded with the Sports Mode are later played back on a VTR, still and slow motion playback with very sharp picture contours and brilliant details can be obtained.

Notes:

1. When shooting under fluorescent, mercury-vapor or natrium lamps, the picture will be adversely influenced by flickering.
2. When a scene shot in the Sports Mode is played back in the normal playback mode, the picture movement may not be as smooth as normally.
3. Since the picture is recorded with a high shutter speed, the playback picture will be slightly darker.
4. If the illumination of the scene is weak, the " 🏃 " Indication in the Viewfinder flashes. In this case, the Movie Camera is not in the "High Shutter Speed" Mode.

1 Set to " 🏃 " (Sports Mode).
The " 🏃 " Indication appears in the Viewfinder.

■ Manually Overriding the Automatic Exposure Adjustment

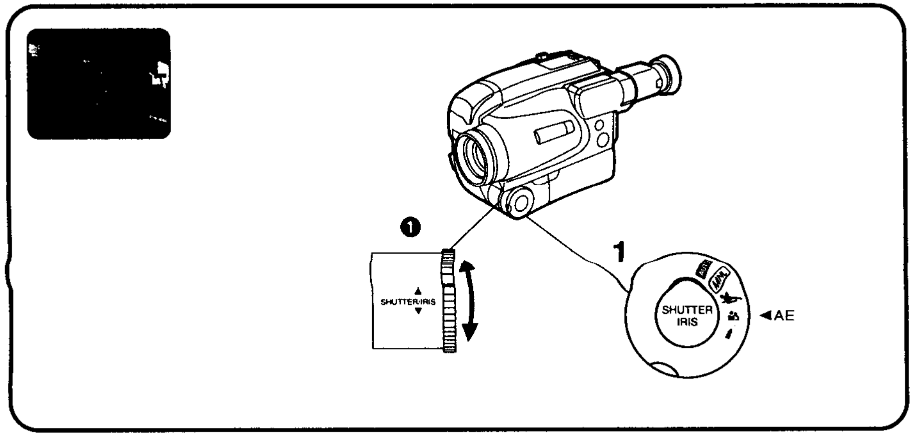
Turn the [SHUTTER/IRIS] Control ❶.

Turning upwards:	The picture becomes brighter. (Backlight Compensation)
Turning downwards:	The picture becomes darker. (Overexposure Compensation)

The compensation value is indicated in the Viewfinder.
Range of compensation: +7 to −7 F-stops

■ To Return to the Normal Shooting Mode

Reset the [AE] Dial to "AUTO".



How to Make Persons Stand out Sharply from the Background

■ Using the Portrait Mode

In the Portrait Mode, the iris is automatically set to its maximum opening which results in a very small depth-of-field. This causes the subject in the centre of the picture to be sharply focussed while the background is blurred.

1 Set to " 👥 " (Portrait Mode).
The " 👥 " Indication appears in the Viewfinder.
- Zooming in on the subject by pushing the [W•T] Zoom Lever toward "T" increases the blurring of the background.

■ Manually Overriding the Automatic Exposure Adjustment

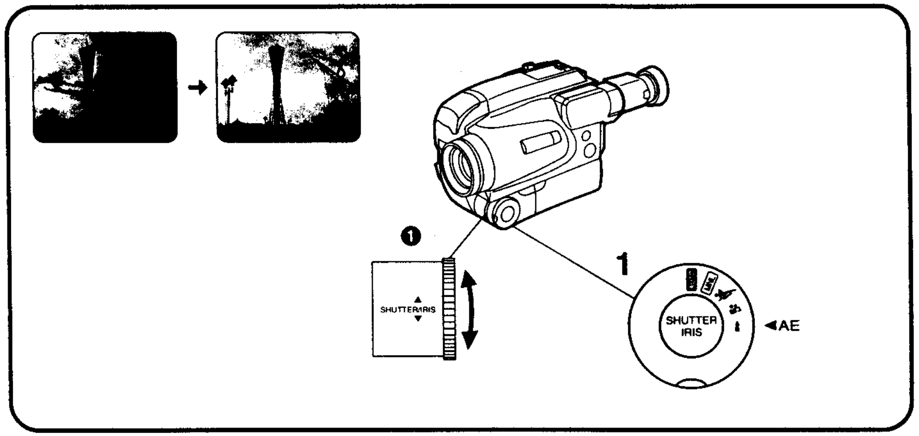
Turn the [SHUTTER/IRIS] Control ❶.

Turning upwards:	The picture becomes brighter. (Backlight Compensation)
Turning downwards:	The picture becomes darker. (Overexposure Compensation)

The compensation value is indicated in the Viewfinder.
Range of compensation: +7 to −7 F-stops

■ To Return to the Normal Shooting Mode

Reset the [AE] Dial to "AUTO".



How to Shoot Dark Scenes More Brightly

■ Using the Low Light Mode

Note:
Even if this mode is used for outdoor shooting in the daytime, the result will be almost the same as when shooting in the normal mode.

1 Set to " 🕯 " (Low Light Mode).
- The " 🕯 " Indication appears in the Viewfinder.
- This increases the sensitivity and brightens up the picture.

■ Manually Overriding the Automatic Exposure Adjustment

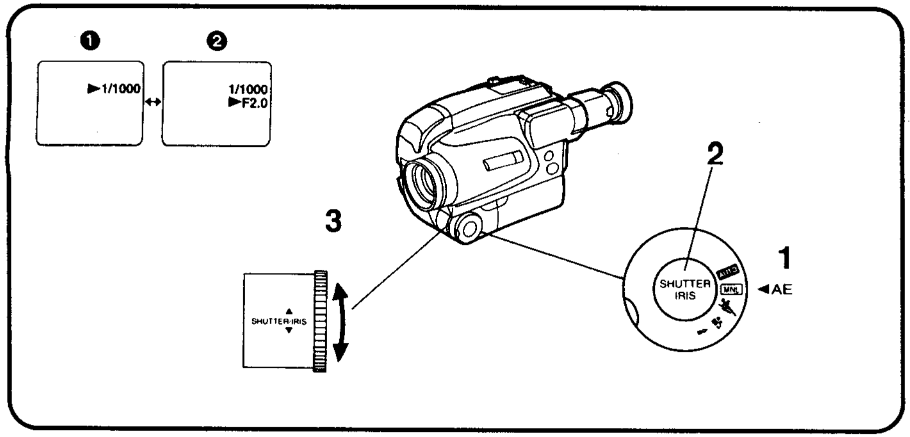
Turn the [SHUTTER/IRIS] Control ❶.

Turning upwards:	The picture becomes brighter. (Backlight Compensation)
Turning downwards:	The picture becomes darker. (Overexposure Compensation)

The compensation value is indicated in the Viewfinder.
Range of compensation: +7 to −7 F-stops

■ To Return to the Normal Shooting Mode

Reset the [AE] Dial to "AUTO".



How to Adjust the Shutter Speed and Iris

Notes:
- •When compensating for the backlighting of a subject, a blue sky may become whitish.
- •In case of extremely strong backlight, it may not be possible to brighten up the subject sufficiently.
- •Depending on the angle of the sunlight in shooting, star-shaped light reflexes may be recorded in the picture.
- •When shooting with a high shutter speed, the playback picture will be slightly darker.

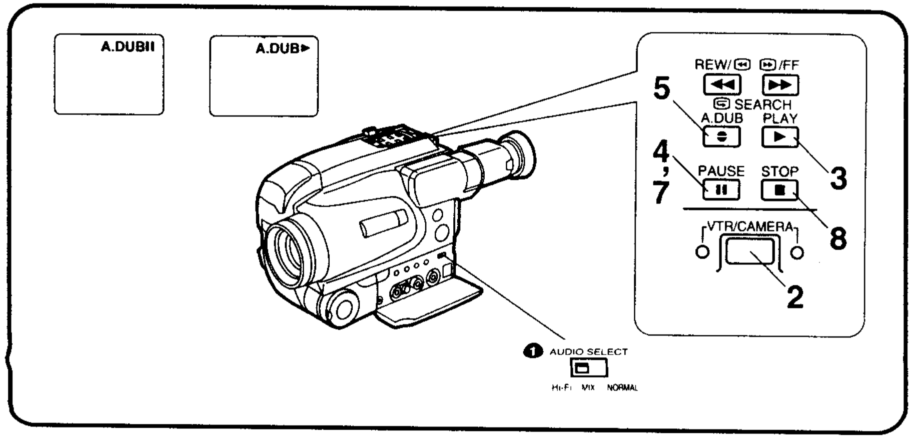
In the Manual Mode, it is possible to manually adjust both the shutter speed and the iris.

1 **Set to "MNL".**

2 **Press.**
By pressing the buttion in the [AE] Dial repeatedly, it is possible to change between the Shutter Speed Indication ❶ and the Iris Value Indication ❷.

3 **Turn.**
In the Shutter Speed Indication Mode:
Turning upward: The shutter speed becomes higher.
Turning downward: The shutter speed becomes lower.
Range of shutter speed adjustment: 1/50–1/4000 s
In the Iris Value Indication Mode:
Turning upward: The iris opening becomes larger.
Turning downward: The iris opening becomes smaller.
Range of iris adjustment:
Close→F16.0...F2.0→Opened +0 dB...Opened +18 dB

■ To Return to the Normal Shooting Mode
Reset the [AE] Dial to "AUTO".



How to Use the Audio Dubbing Function

Audio Dubbing can be performed by using the stereo microphone or an external microphone.

1 **Insert the recorded video cassette.**
Insert a video cassette with intact tab.
If the tab is removed, cover the hole with adhesive tape.

2 **Press the [VTR/CAMERA] Button.**

3 **Press.**
Play back the tape to locate the point where you want to start the Audio Dubbing.

4 **Press.**

5 **Press.**
The "A.DUB ▮▮" Indication appears in the Viewfinder.

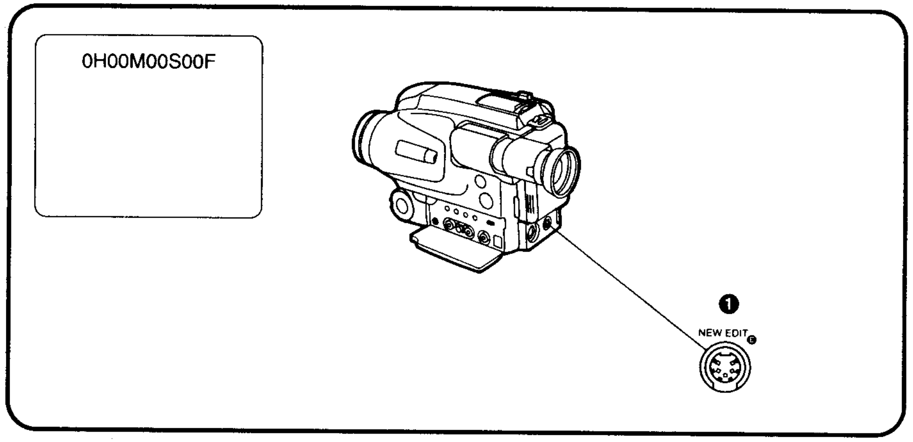
6 **Operate the audio source unit.**

7 **Press again.**
- •The Audio Dubbing starts.
- •The "A.DUB ►" Indication appears in the Viewfinder.

8 **Press.**
The Audio Dubbing stops.

■ When Playing Back a Cassette Tape on which Audio Dubbing has been Performed...
Use the [AUDIO SELECT] Switch ❶ to select the sound to be played back.

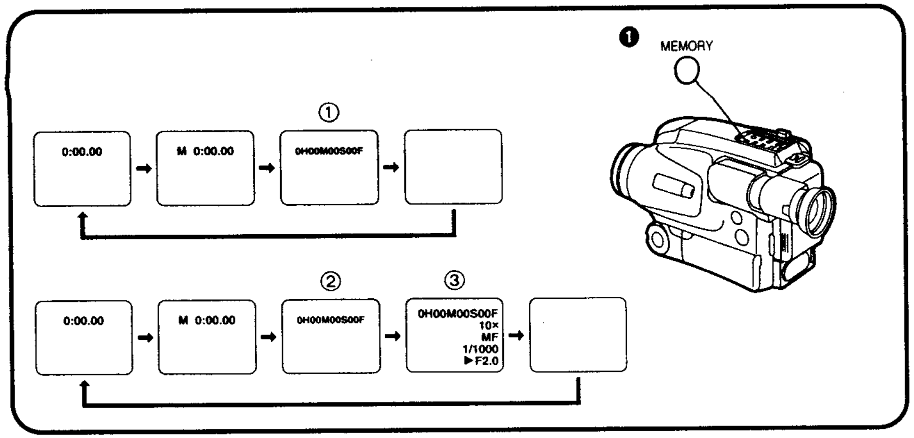
Hi-Fi:	The original sound (sound before performing audio dubbing) alone can be heard.
MIX:	The original and the dubbed sound can be heard mixed together.
NORMAL:	The dubbed sound alone can be heard.



How to Use the VITC Function

As an address (individual number) is recorded for each frame, it is possible to find the accurate position of any desired scene or picture on a tape by checking the address during playback. This address is called "Time Code".
Since the VITC signals (Vertical Interval Time Code) are recorded together with the picture signals, (however, in a part that is not visible on the TV screen), they will not be cancelled even when the video cassette is taken out from the Movie Camera or the Movie Camera is switched off. This makes it possible to check the precise position of any desired picture at any time.

Notes:
1. The number indicated in the Viewfinder (Linear Counter or VITC Counter) is output through the [NEW EDIT E] Socket ❶.
2. Do not switch between the "Linear Counter" and the "VITC" counter during editing with an Editing Controller.
3. As the VITC Counter Indication displayed during FF or REW is only a rough approximation of the actual VITC value, it cannot be used for checking the precise VITC value. (When performing FF or REW without having performed any playback, the VITC Counter Indication remains at zero.)
4. When editing with Editing Controller VW-EC10, set the User Code to the "off" mode as explained in paragraph '3.6.2 Editing with "foreign" timecode' of its Operation Manual.
5. To provide a blank leader portion (unrecorded tape) at the beginning of each video cassette, shoot for at least 20 seconds with the Lens Cap attached to the Lens.
6. Each time you start shooting, small jumps may appear in the time code. Therefore, get into the habit of always starting the shooting approx. 5 seconds before the action you wish to record actually starts.



1 Recording of VITC Signals

Note:
To ensure that the VITC signals are recorded on a tape without interruption when starting to shoot after taking out the video cassette from the Movie Camera, after performing FF or REW, or after starting to shoot midway on a video cassette, be sure to play back the last part of the previous recording.

During shooting, the VITC signals are recorded automatically.

- When shooting is started from an unrecorded part of a video tape, the VITC value begins from 0H00M00S00F (Hours, Minutes, Seconds, Frames). (1 Frame=1/25 s)
- When shooting is started from the end of the previously recorded part of a video tape, the VITC value continues from the previously recorded VITC value.

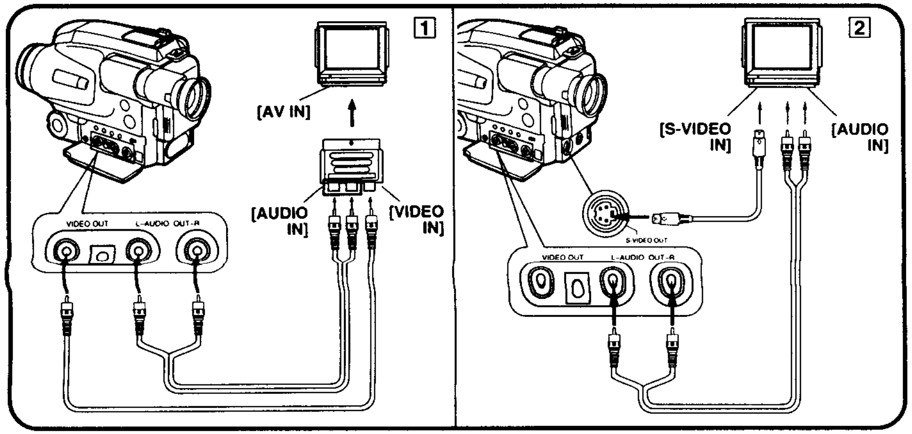
To check the VITC value, press the [MEMORY] Button ❶ to make the VITC Counter Indication ① appear in the Viewfinder.

2 Playback of VITC Signals

Checking the VITC value ② and the camera information ③ is possible by repeatedly pressing the [MEMORY] Button during playback in the VTR mode.

■ Camera Information

The camera information (zoom magnification, manual focus, shutter speed, iris setting, etc.) is automatically recorded together with the VITC signals. This information can be checked in the Viewfinder during playback.
The date and time are also automatically recorded as part of the camera information.
They can be checked in the Viewfinder during playback by pressing the [DATE/TIME] Button.



How to Play Back via a TV Set

Note:
If your TV set is not equipped with an AV Input Socket, the RF Adaptor (optional) is necessary. For its connection, read the operating instructions of the RF Adaptor.

1 Playback via a TV Set with 21-pin AV Input Socket

Note:
Turn off the Movie Camera and the TV set.
Connect with the supplied 21-pin Adaptor and Audio/Video Cable, as shown above.

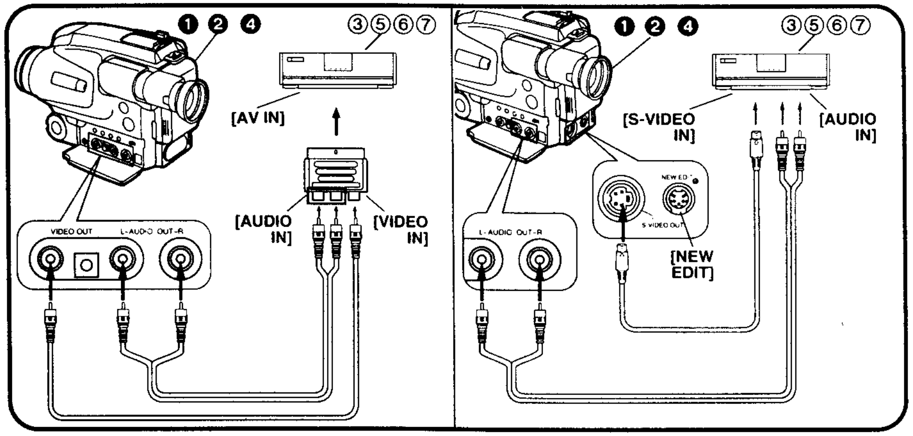
■ Activate the Playback Operation

2 Playback via a TV Set with S-Video Input Socket

Note:
Turn off the Movie Camera and the TV set.

Connect with the supplied S-Video Cable, as shown above.

■ Activate the Playback Operation



How to Copy from the Movie Camera onto a VTR (Dubbing)

- When using the 21-pin Adaptor, connect as shown in the left part of the above illustration.
- When using the S-Video Cable, connect as shown in the right part of the above illustration.
- Before connecting, be sure to turn off all units.

■ Operations

Playback Unit (Movie Camera):	❶, ❷, ❹
Recording Unit (VTR):	③, ⑤, ⑥, ⑦

❶ **Insert the recorded video cassette for playback into the Movie Camera.**
Find the point on the tape where the dubbing is to end and note the tape counter position.

❷ **Rewind the tape and find the point where the dubbing is to start.**

③ **Insert the video cassette for recording into the VTR and put it in the Recording Pause Mode. Also read the operating instructions of the VTR.**
The picture quality deteriorates slightly in the dubbing process, however, this can be minimized by selecting the standard recording speed (SP Mode) on the VTR.

❹ **Start the playback.**

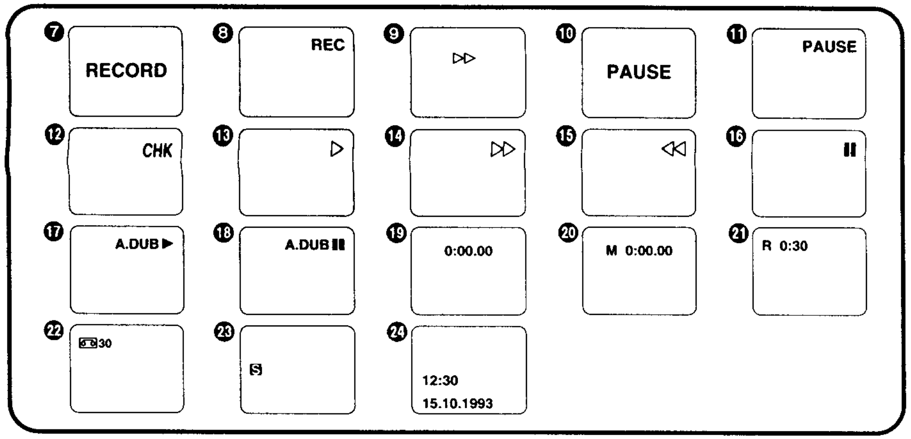
⑤ **Press the Pause/Still Button to start recording.**

⑥ **Press the Pause/Still Button at the point where the dubbing is to end.**
The VTR is now in the recording pause mode.

⑦ **When the next scene which you want to record appears, press the Pause/Still Button one more time.**

■ Edit Socket [NEW EDIT E]

By connecting an Editing Controller (optional) to this socket as well as to a VTR equipped with Edit Socket, highly precise and speedy editing becomes possible.



■ Shooting and Playback Indications

⑦ **Shooting Mode (large indication)**
When the Start/Stop Button is pressed from the Shooting Pause Mode, this indication is displayed for approx. 1 second.

⑧ **Shooting Mode (small indication)**
"REC" means Recording.

⑨ **Tape Run Mode**

⑩ **Shooting Pause Mode (large indication)**
When the Start/Stop Button is pressed from the Shooting Mode, this indication is displayed for approx. 1 second.

⑪ **Shooting Pause Mode (small indication)**

⑫ **Recording Review Mode**
"CHK" means Check.

⑬ **Playback/Camera Search Mode**

⑭ **Fast Forward/Cue Mode**

⑮ **Rewind/Review/Camera Search Mode**

⑯ **Still Playback Mode**

⑰ **Audio Dubbing Mode**

⑱ **Audio Dubbing Pause Mode**

⑲ **Tape Counter**

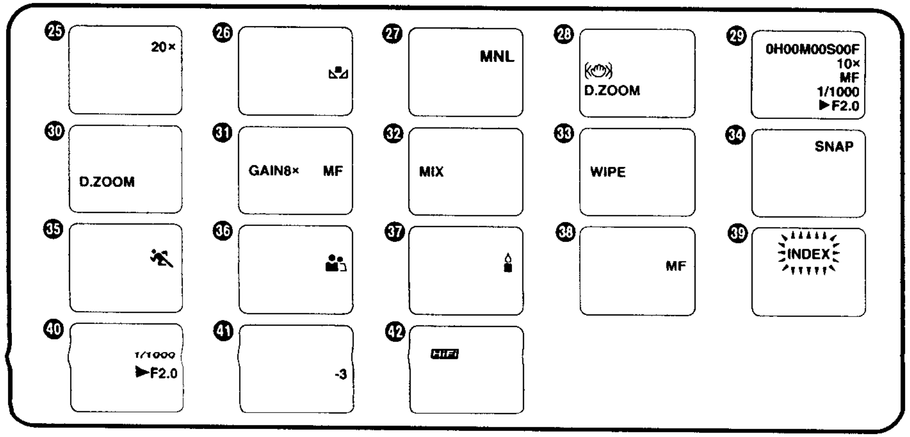
⑳ **Tape Counter with activated Memory Function**
"M" means Memory.

㉑ **Remaining Tape Time**
"R" means Remaining.

㉒ **Tape Length**

㉓ **S-VHS Format**

㉔ **Date and Time**



㉕ **Zoom Magnification**

㉖ **Manual White Balance Mode**

㉗ **Manual Shooting Mode**
"MNL" means Manual.

㉘ **Digital Image Stabilizer Mode**
The "D.ZOOM" Indication appears, too.

㉙ **VITC value and Camera Information**

㉚ **Digital Zoom Mode**
"D" means Digital.

㉛ **High Sensitivity Mode**

㉜ **Digital Mix Mode**
The " MIX " Indication is displayed when a still picture is in the digital memory.

㉝ **Digital Wipe Mode**
The " WIPE " Indication is displayed when a still picture is in the digital memory.

㉞ **Snapshot Mode**

㉟ **Sports Mode**

㊱ **Portrait Mode**

㊲ **Low Light Mode**

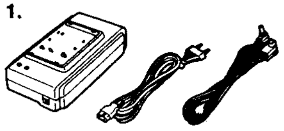
㊳ **Manual Focus Mode**
"MF" means Manual Focus.

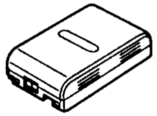
㊴ **Index**
While this indication is visible, an index signal is being recorded.

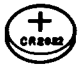
㊵ **Shutter Speed/Iris Value**

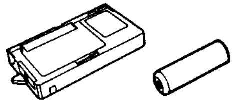
㊶ **AE Compensation Value**

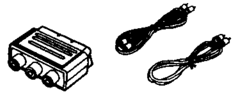
㊷ **Hi-Fi Mode**
During playback of hi-fi sound, the " HiFi " Indication is displayed in the Viewfinder.

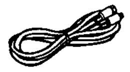
1.


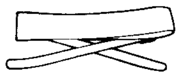
2.


3.


4.


5.


6.


7.


Before Shooting

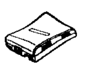
1 Standard Accessories

1. **AC Adaptor**
   For supplying power to the Movie Camera or for charging the Battery Pack
   DC Input Cable
   For connection to the AC Adaptor
2. **Battery Pack**
   For supplying power to the Movie Camera
3. **Button-Type Battery**
   For storing the date and time in memory
4. **Cassette Adaptor and Battery**
   For playback on a VTR
5. **21-pin Adaptor and Audio/Video Cables**
   For connection to a TV set or VTR
6. **S-Video Cable**
   For connection to a TV set or VTR
7. **Shoulder Strap**

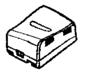
Notes:
1. Before connecting, confirm that all systems are turned off and that the connection cables are not damaged.
2. Do not expose the connection cables to high temperature, chemicals and objects with sharp edges; also do not bend the cables excessively.

CAUTION:
TO REDUCE THE RISK OF FIRE OR SHOCK HAZARD AND ANNOYING INTERFERENCE, USE THE RECOMMENDED ACCESSORIES ONLY.

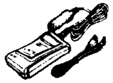
1. VW-VBS10E
VW-VBH10E



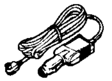
2. VW-VBS20E
VW-VBH20E



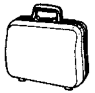
3. VW-KBC2E



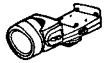
4. VW-ACC2E



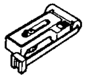
5. VW-SHCS5E



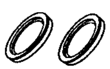
6. VZ-LDCS13E



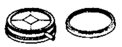
7. VW-SK9E



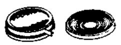
8. VW-LF37E



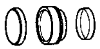
9. VW-LFA37E



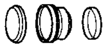
10. VW-LFB37E



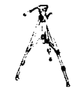
11. VW-LT3714E



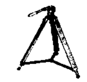
12. VW-LW3707E



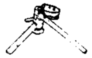
13. VZ-CT55E



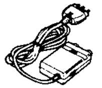
14. VZ-CT75E



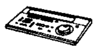
15. VZ-CTT1E



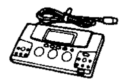
16. VW-RF7E



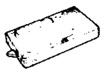
17. VW-EC310E



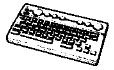
18. VW-EC1E



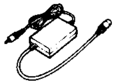
19. VW-TCA7E



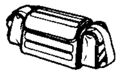
20. VW-VT1E



21. VW-K10E



22. VW-SBS5E



Optional Accessories

1. Battery Pack
2. Battery Pack
3. Car Battery Charger
4. Car Battery Cord
5. System Case
6. Video DC Light
7. Shoe Adaptor
8. Filter Kit
9. Special Effect Filter Kit (A)
10. Special Effect Filter Kit (B)
11. Tele Conversion Lens
12. Wide Conversion Lens
13. Standard Tripod
14. Deluxe Tripod
15. Table Tripod
16. RF Adaptor
17. Editing Controller
18. Editing Controller
19. Cassette Adaptor
20. Video Titler
21. 5 Pin Synchro Cord
22. Soft Bag

Note:
When using the Video DC Light, the Shoe Adaptor (optional) is necessary.

Battery Pack No.	Charging Time	Max. Shooting Time
VW-VBS10E	Approx. 50 min.	Approx. 40 min.
VW-VBS20E	Approx. 100min.	Approx. 80 min.
VW-VBH10E	Approx. 60 min.	Approx. 50 min.
VW-VBH20E	Approx. 120 min.	Approx. 100 min.

SECTION 2
ADJUSTMENT PROCEDURES

2-1. DISASSEMBLY PROCEDURES

1. Removal of Side Case (R)

(See Fig. D1)
A). Remove... 2 Screws (A), Screw (B) and 2 Screws (C)
(See Fig. D2)
B). Remove... 4 Screws (D)
(See Fig. D5)
C). Remove... Screw (J)
(See Fig. D3)
D). Slightly Slide the Side Case (R)
E). Disconnect... Connection C. B. A. and Connector (A)

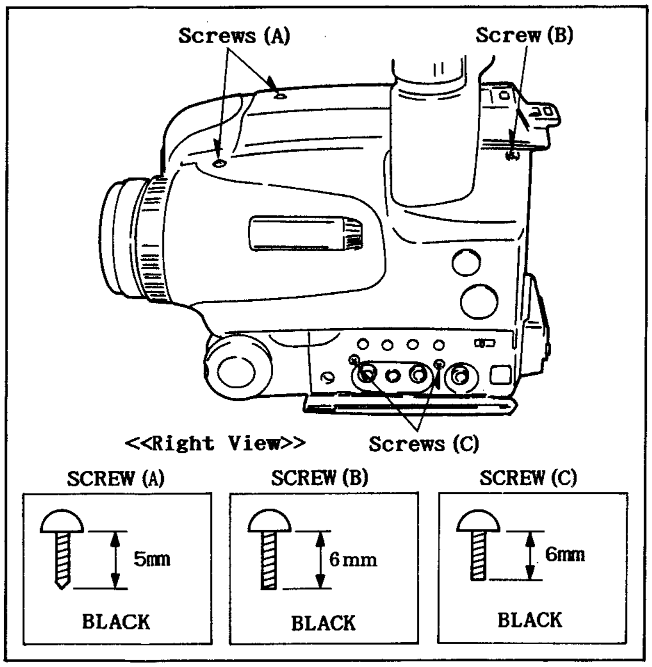

Screws (A)
Screw (B)
<<Right View>>
Screws (C)
SCREW (A)
5mm
BLACK
SCREW (B)
6mm
BLACK
SCREW (C)
6mm
BLACK

Fig. D1

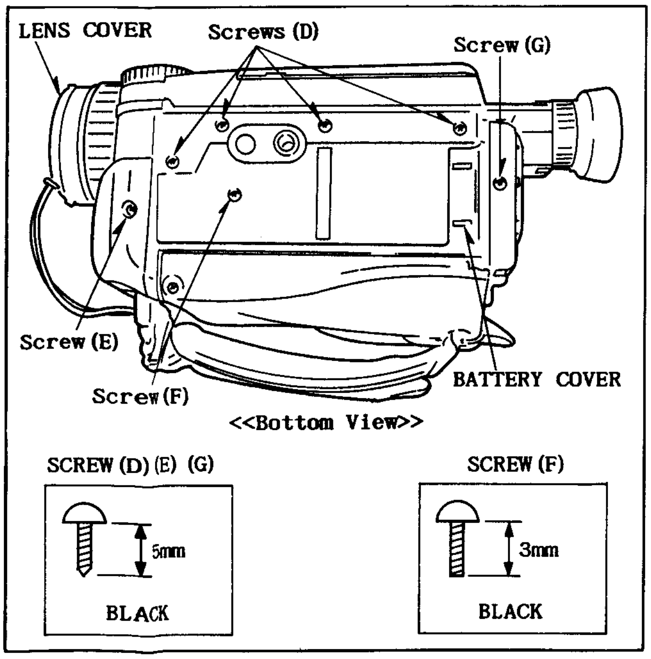
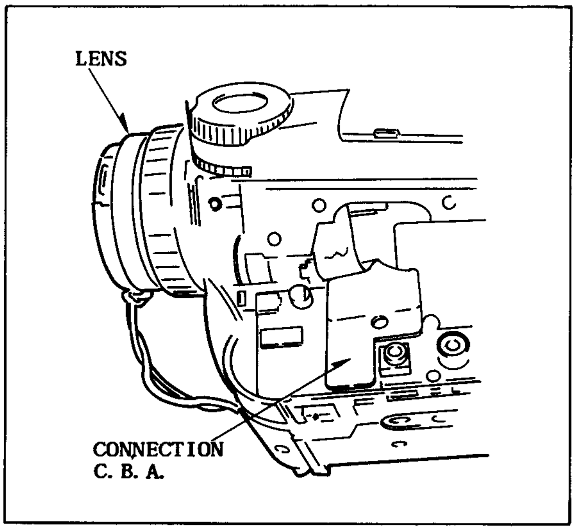
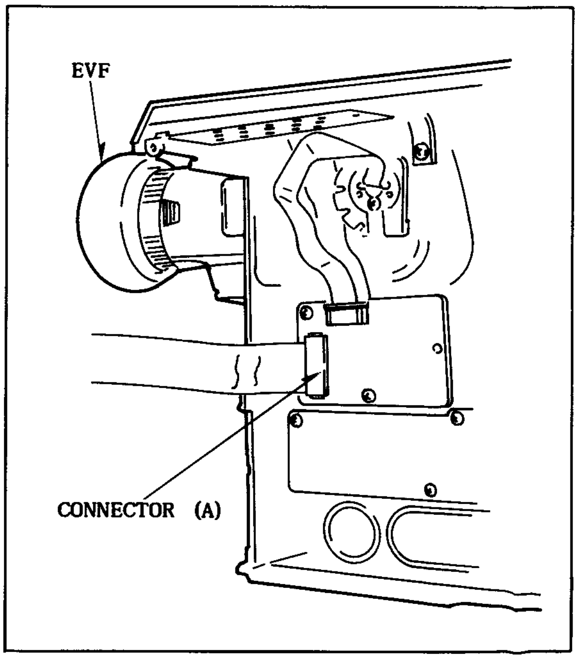

LENS COVER
Screws (D)
Screw (G)
Screw (E)
Screw (F)
BATTERY COVER
<<Bottom View>>
SCREW (D) (E) (G)
5mm
BLACK
SCREW (F)
3mm
BLACK

Fig. D2


LENS
CONNECTION
C. B. A.

<<Right View>>


EVF
CONNECTOR (A)

<<Inside of the Side Case (R)>>

Fig. D3

2. Removal of Side Case (L)

(See Fig. D2)
- A). Remove... Battery Cover
- B). Remove... Screw (F) and Screw (G)

(See Fig. D4)
- C). Remove... 4 Screws (H) and Screw (I)
- D). Remove... Jack Cover

(See Fig. D5)
- E). Remove... 2 Screws (K) and 2 Screws (L)

(See Fig. D4)
- F). Disconnect... Connector (B)

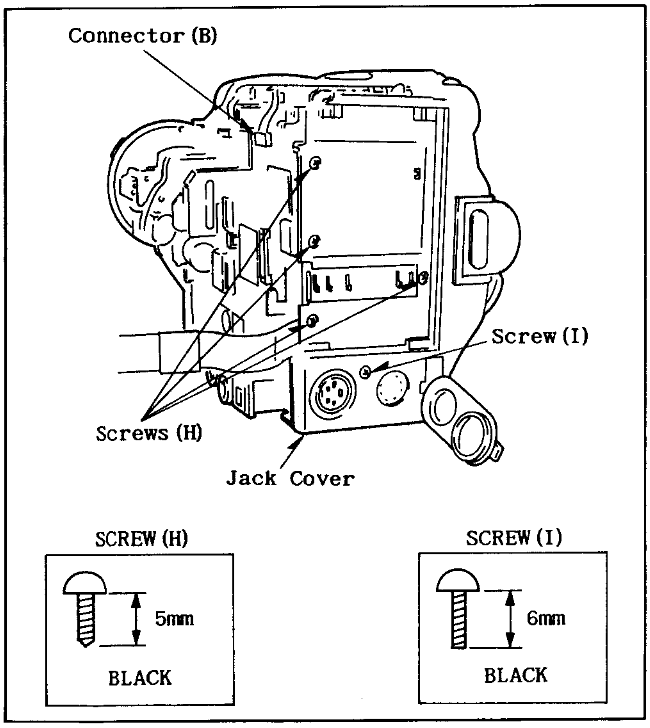

Connector (B)
Screw (I)
Screws (H)
Jack Cover
SCREW (H)
5mm
BLACK
SCREW (I)
6mm
BLACK

Fig. D4

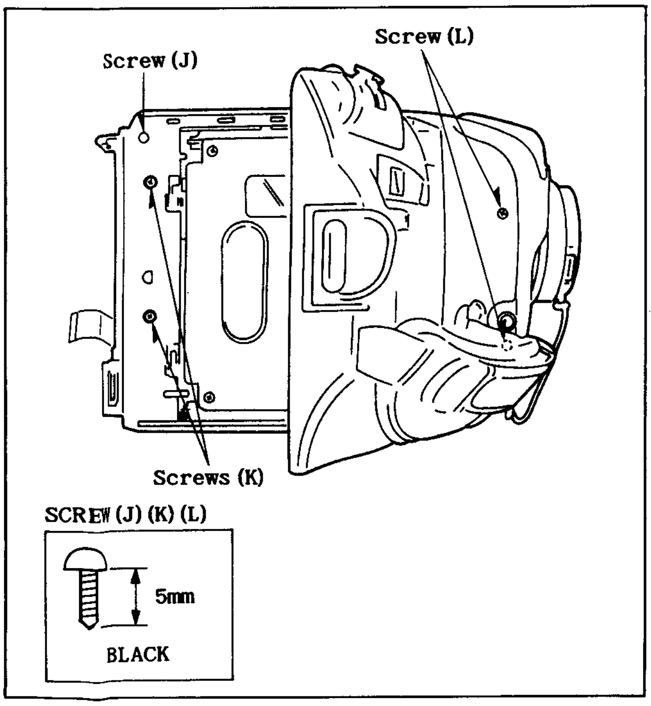

Screw (L)
Screw (J)
Screws (K)
SCREW (J) (K) (L)
5mm
BLACK

Fig. D5

3. Removal of Front Case

(See Fig. D6)
- A). Slide... Front Case
- B). Disconnect.... Connector (C) and Connector (D)

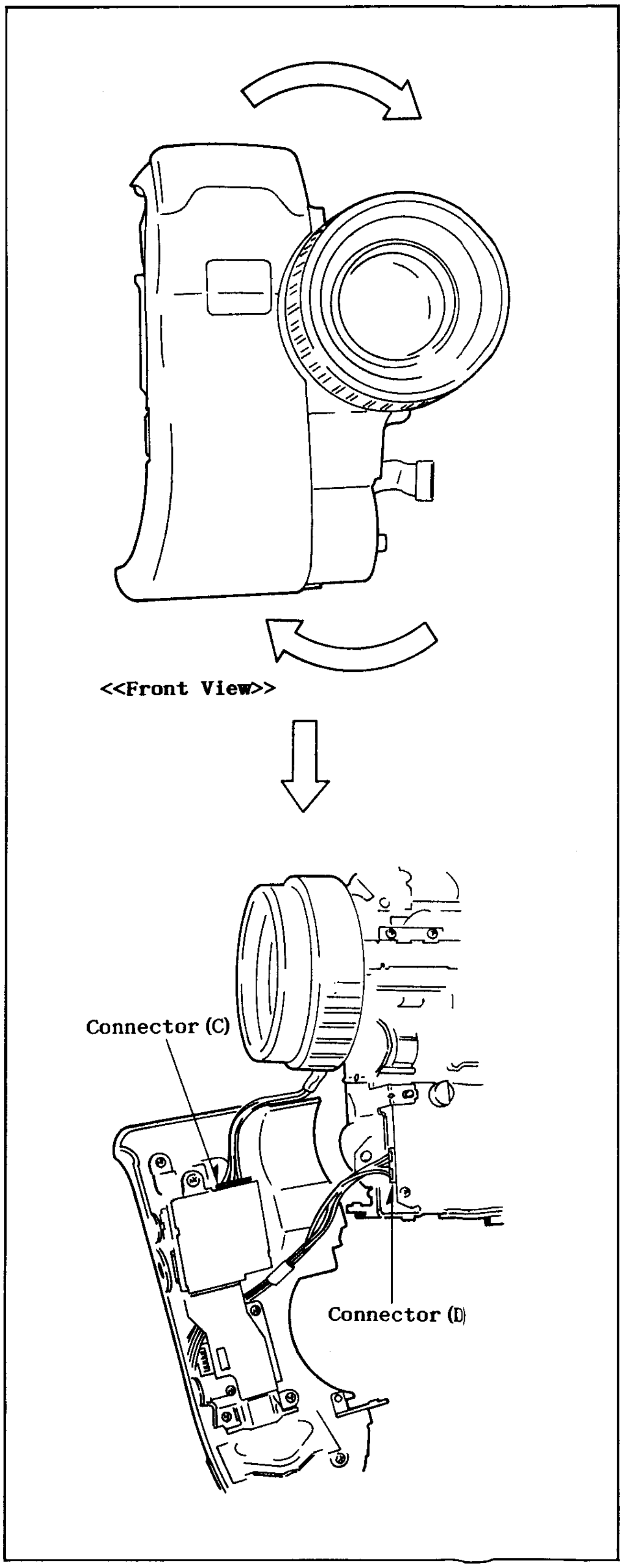

<<Front View>>
Connector (C)
Connector (D)

Fig. D6

4. Separates the Camera Section and VTR Section

(See Fig. D7)

A). Remove... 2 Screws (M)
B). Remove... Connector (E) and Connector (F)

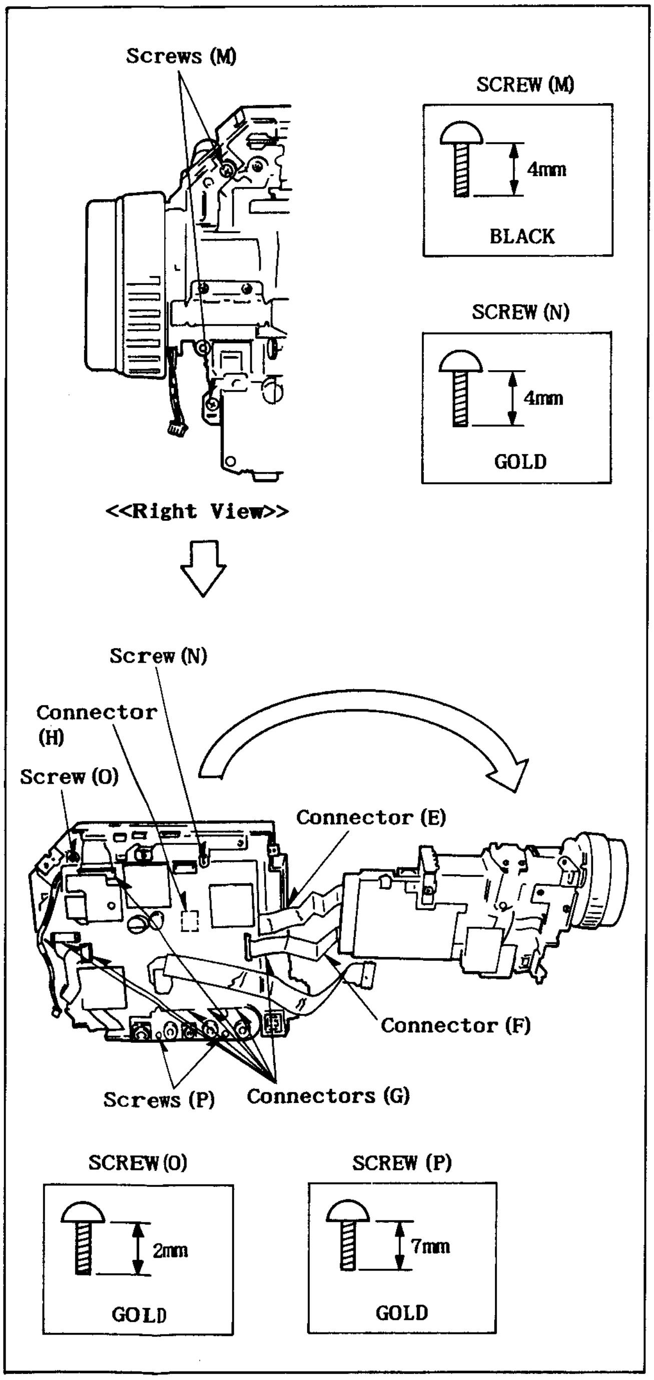

Screws (M)
SCREW (M)
4mm
BLACK
SCREW (N)
4mm
GOLD
<<Right View>>
Screw (N)
Connector (H)
Screw (O)
Connector (E)
Connector (F)
Screws (P)
Connectors (G)
SCREW (O)
2mm
GOLD
SCREW (P)
7mm
GOLD

Fig. D7

5. Separates Main C. B. A. and Chassis
(See Fig. D7)

A). Remove... 2 Screws (P)
B). Remove... Screw (N)
C). Remove... Screw (O)
D). Disconnsct... 7 Connectors (G)
E). Disconnect... Connector (H) (inside)

2-2. DISASSEMBLY PROCEDURES OF MECHANISM

1. Removal of Cassette Holder Unit.

(1) Unsolder following flexible connectors on the bottom side.

(1) FLEXIBLE CONNECTOR TO SUPPLY PHOTO TR.
(2) FLEXIBLE CONNECTOR TO TAKE UP PHOTO TR.

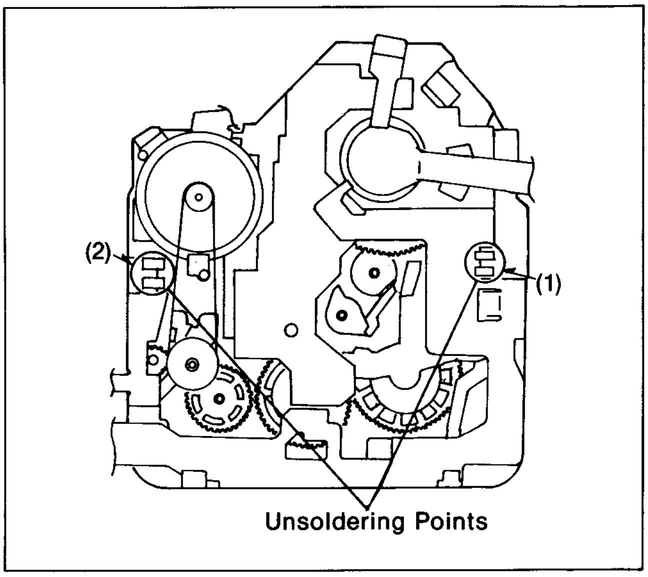

(2)
(1)
Unsoldering Points

Fig. M1

(2) Remove 4 red screws indicated below.

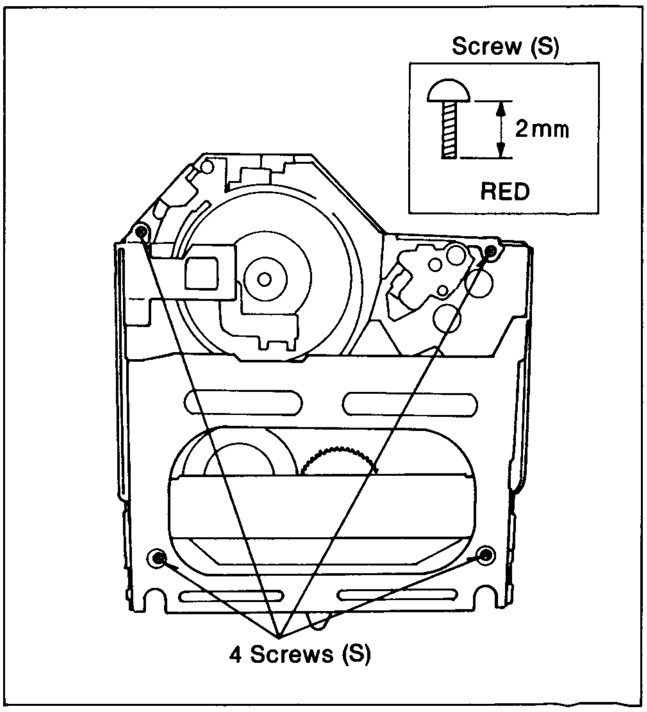

Screw (S)
2mm
RED
4 Screws (S)

Fig. M2

(3) Release Eject Lock Lever and take out Cassette Holder Unit.

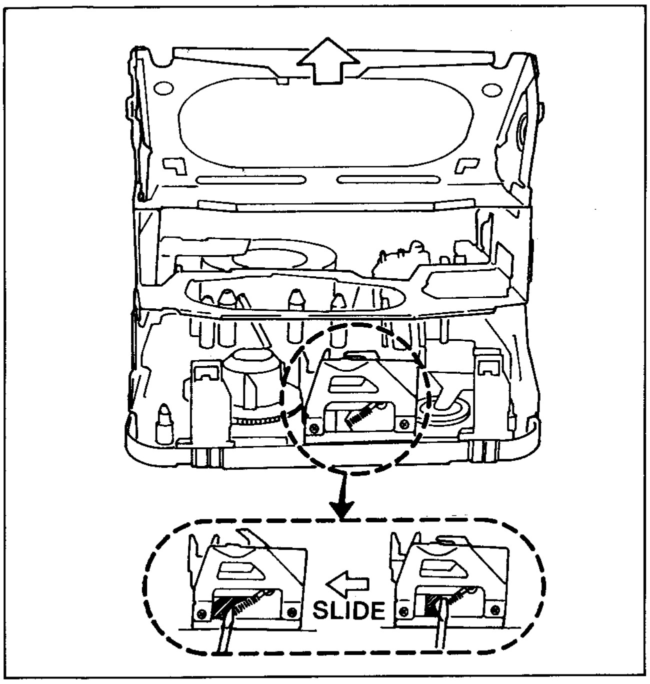


Fig. M3

2. REMOVAL OF DD CYLINDER UNIT.

Note: *
Upper Cylinder Unit is not replaceable on it's own. So only DD Cylinder Unit is available for ordering service parts.

(1) Remove RT (Rotary Transformer) Connector by using a screw driver.
(2) Remove 3 screws to take out DD Cylinder Unit.

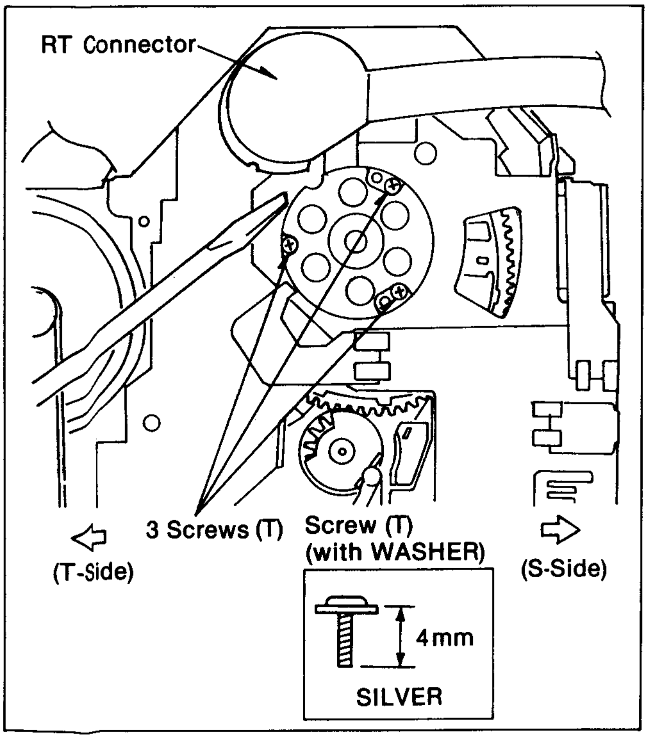

RT Connector
3 Screws (T)
Screw (T)
(with WASHER)
(T-Side)
(S-Side)
4mm
SILVER

Fig. M4

3. REMOVAL OF S-RAIL UNIT, LOADING MOTOR UNIT & TENSION REGULATOR UNIT.

(1) Move tape loading Posts(S1, T1 and T2) half way in the tape loading direction by applying 1.5DC to Loading Motor.

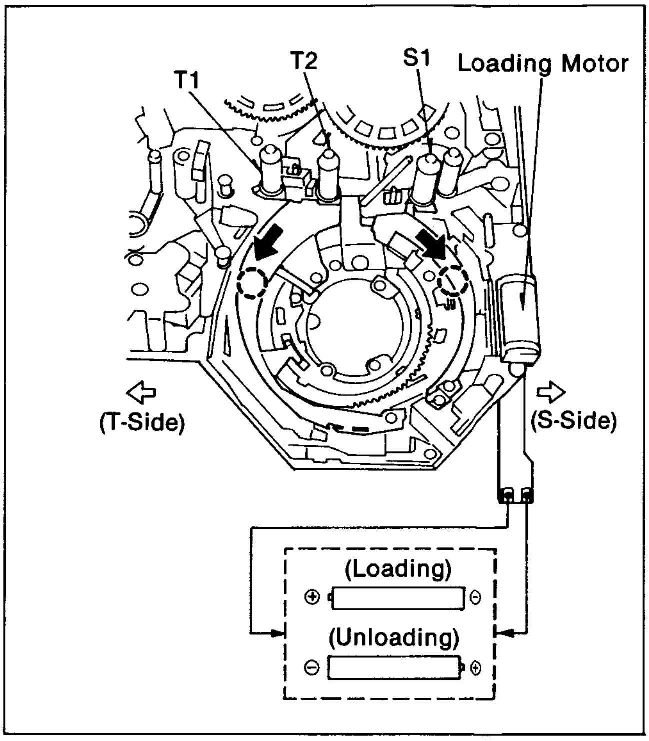

T1
T2
S1
Loading Motor
(T-Side)
(S-Side)
(Loading)
⊕
⊖
(Unloading)
⊖
⊕

Fig. M5

(2) Remove 2 screws and take out S—Rail Unit.

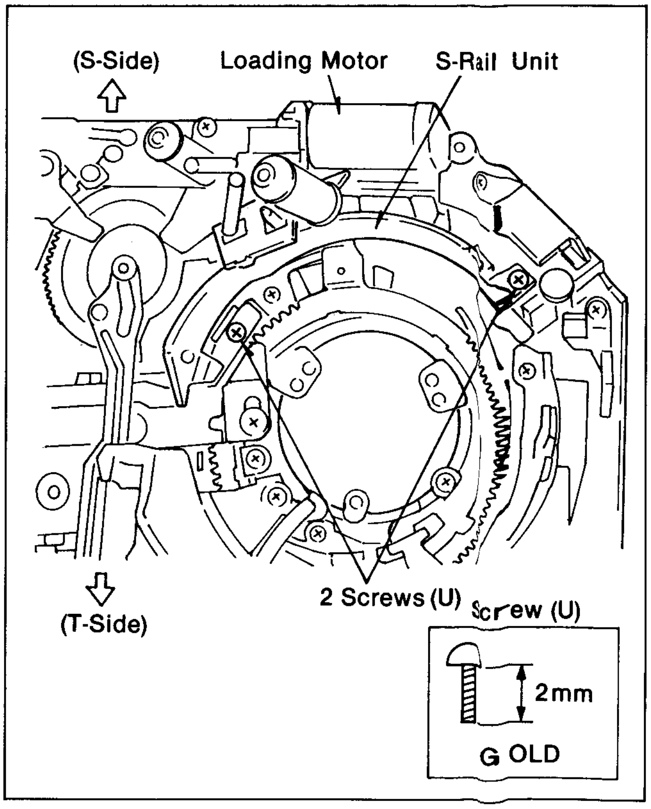

(S-Side)
Loading Motor
S-Rail Unit
(T-Side)
2 Screws (U)
Screw (U)
2mm
G OLD

Fig. M6

(3) Remove 2 screws (Slightly move Loading Posts in the unloading direction.) and take out Loading Motor Unit.

(4) Unhook the spring(* Remember the original hooking position for reinstalling after), remove a washer and take out Tension Regulator Unit.
Don't lose a spacer underneath.

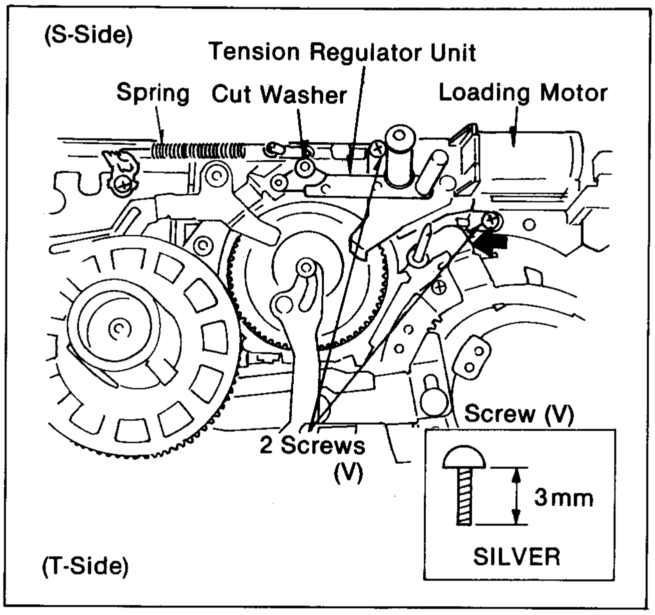

(S-Side)
Tension Regulator Unit
Spring
Cut Washer
Loading Motor
Screw (V)
2 Screws (V)
3mm
SILVER
(T-Side)

Fig. M7

4. REMOVAL OF SUPPLY REEL TABLE, EJECT LEVER UNIT AND PAD ARM.

(1) Remove a washer and take out Supply Reel Table. Don't lose a spacer underneath.

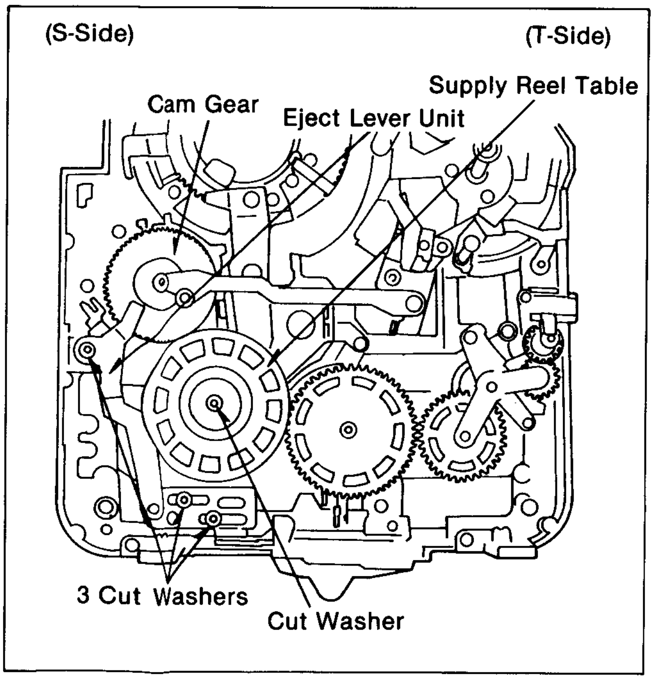

(S-Side)
(T-Side)
Supply Reel Table
Cam Gear
Eject Lever Unit
3 Cut Washers
Cut Washer

Fig. M8

(2) Remove 3 washers, 2 screws on Eject Lock Base to make a clearance (* Eject Lock Base is soldered on the flexible P.C. Board.) and take out Eject Lock Lever.

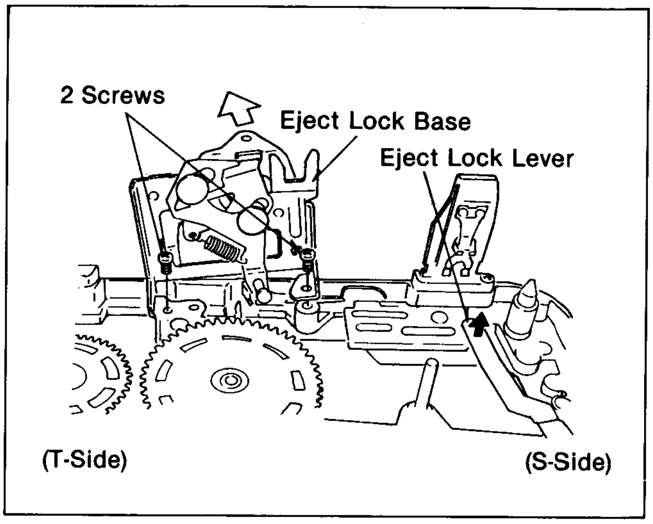

2 Screws
Eject Lock Base
Eject Lock Lever
(T-Side)
(S-Side)

Fig. M9

(3) Remove 2 washers, pull Pinch Drive Arm to the left (S–side) and take it out.

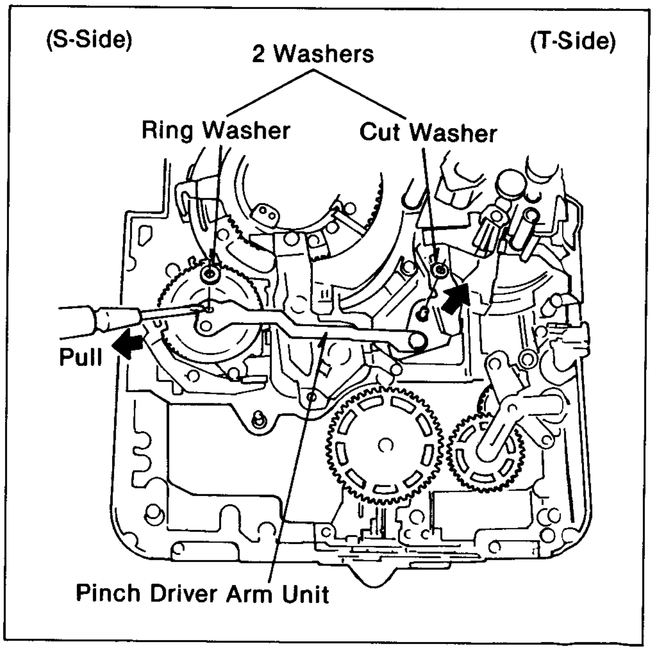

(S-Side)
2 Washers
(T-Side)
Ring Washer
Cut Washer
Pull
Pinch Driver Arm Unit

Fig. M10

(4) Remove a washer and take out Pad Arm.

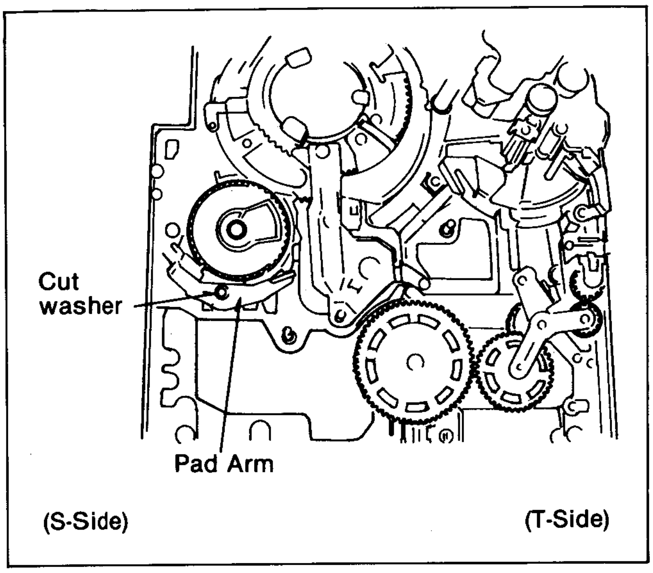

Cut washer
Pad Arm
(S-Side)
(T-Side)

Fig. M11

5. REMOVAL OF T–RAIL UNIT, SWING ARM UNIT, LOADING UNIT AND MODE SW UNIT

(1) Remove 2 screws and take out T–Rail Unit. (* Flexible Connector of Sensor LED has to be unsoldered on the bottom side.)

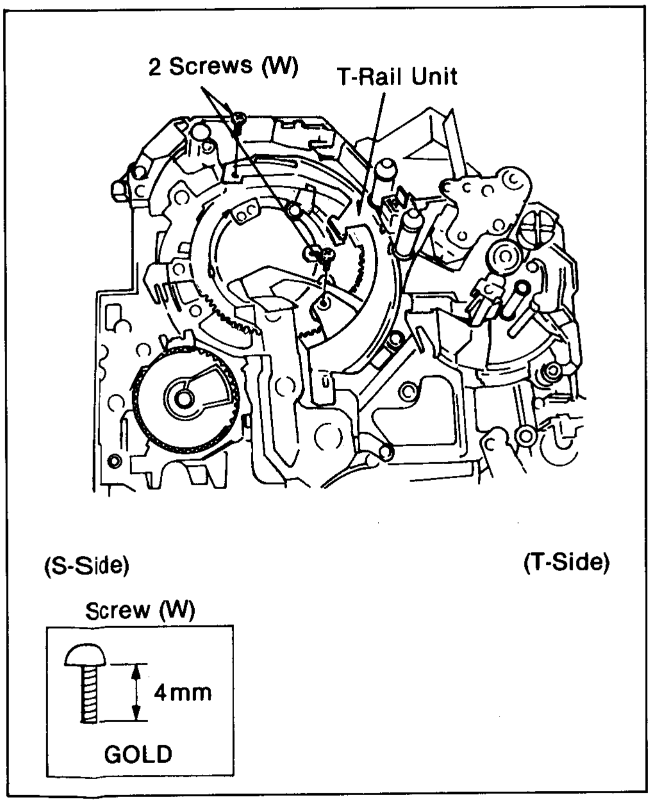

2 Screws (W)
T-Rail Unit
(S-Side)
(T-Side)
Screw (W)
4mm
GOLD

Fig. M12

Caution:
Do not touch inside cam Gear and keep the cam Gear away from grease and dusts.

(2) Remove 2 screws, take out Holder Angle and Swing Arm Unit.

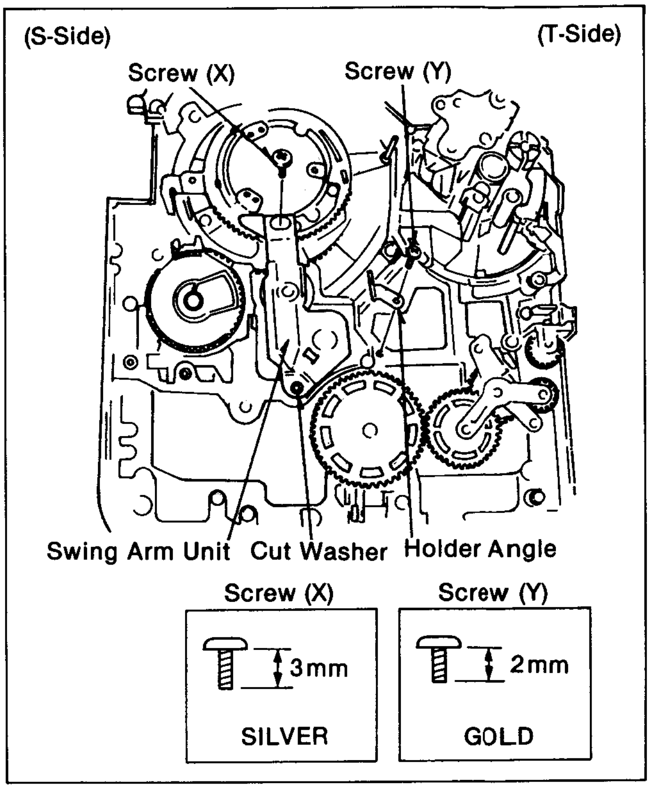

(S-Side)
(T-Side)
Screw (X)
Screw (Y)
Swing Arm Unit
Cut Washer
Holder Angle
Screw (X)
Screw (Y)
3mm
SILVER
2mm
GOLD

Fig. M13

(3) Remove 5 screws.

(4) Loosen Screw (a) to make a clearance and take out Loading Unit.

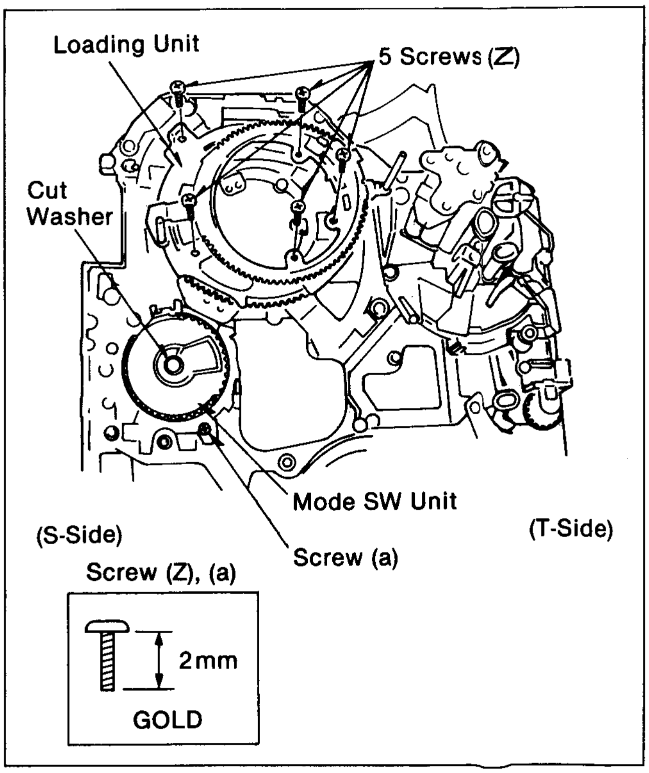

Loading Unit
5 Screws (Z)
Cut Washer
Mode SW Unit
(S-Side)
(T-Side)
Screw (a)
Screw (Z), (a)
2mm
GOLD

Fig. M14

(5) Remove screw (a) and cut washer to take out mode SW unit. (※Mode SW Base is soldered on the flexible P.C. Board).

2-3. ASSEMBLY AND PHASE ADJUSTMENT PROCEDURES OF MECHANISM

1. ASSEMBLY AND PHASE ADJUSTMENT OF LOADING UNIT.

(1) Install Loading Unit and tighten 5 screws.
(2) Adjust mechanical phase so that phase marks (See-through holes) meet on both supply and take up sides as shown below.

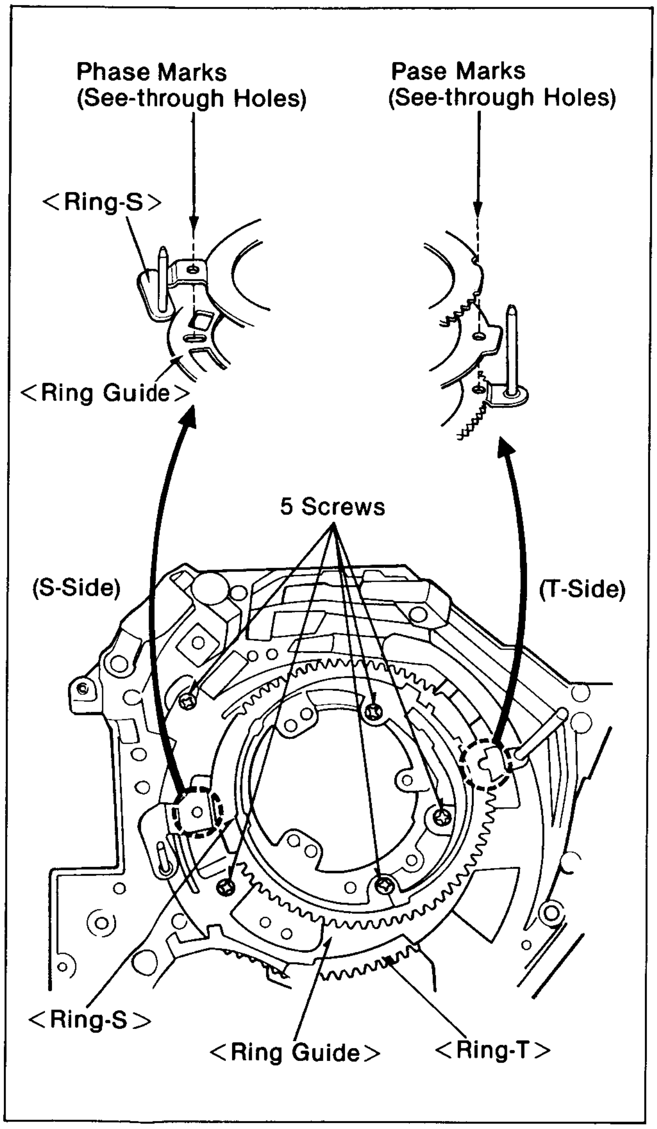

Phase Marks
(See-through Holes)
Pase Marks
(See-through Holes)
<Ring-S>
<Ring Guide>
5 Screws
(S-Side)
(T-Side)
<Ring-S>
<Ring Guide>
<Ring-T>

Fig. M15

2. ASSEMBLY AND PHASE ADJUSTMENT OF CAM GEAR.

(1) Install Cam Gear as shown in Fig.M16. Put the washer.

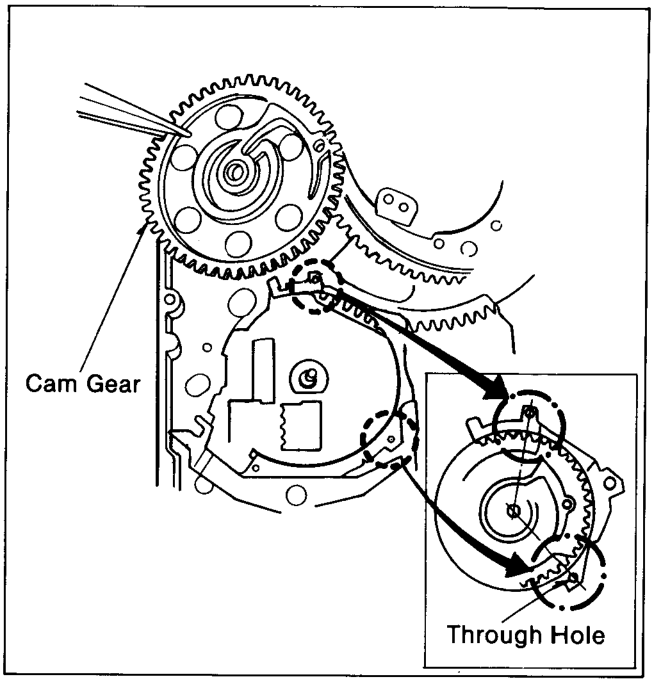

Cam Gear
Through Hole

Fig. M16

3. ASSEMBLY OF PENDULUM ARM UNIT.

(1) Install Swing Arm Unit and tighten 2 screws with the holder angle.
(2) After that, Confirm that the phase mark on Loading Ring−T can be seen through the square cutout of Swing Arm Unit. Also, the phase mark of Swing Arm Unit (V−cutout) is meeting the phase mark on Loading Ring−S Unit on the bottom side. Those phase marks naturally come to the specific positions, if the previous phase adjustments have been done correctly.

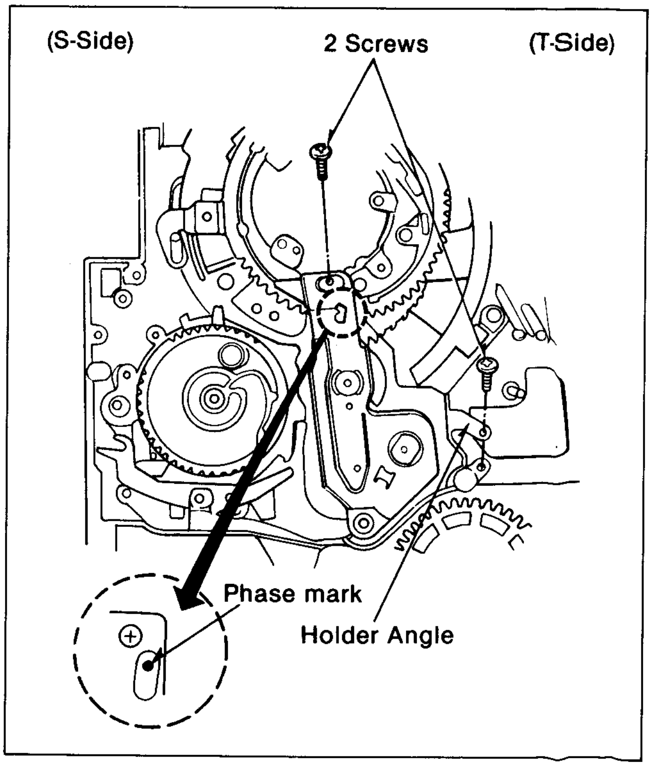

(S-Side)
2 Screws
(T-Side)
Phase mark
Holder Angle

Fig. M17

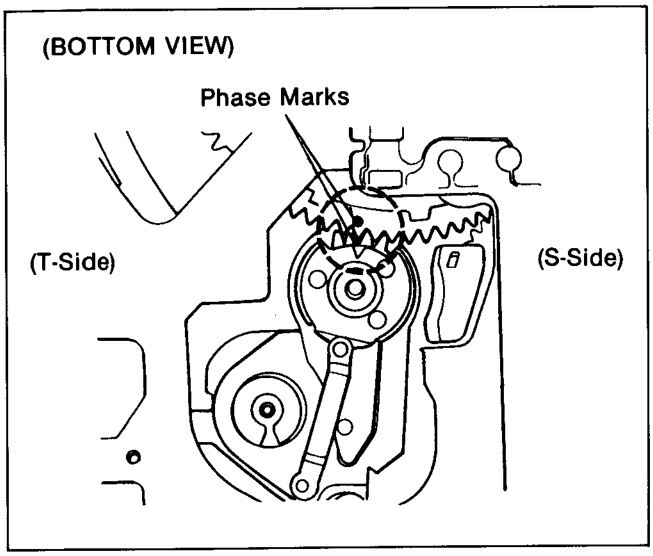

(BOTTOM VIEW)
Phase Marks
(T-Side)
(S-Side)

Fig. M18

4. ASSEMBLY OF LOADING UNIT PINCH DRIVE ARM UNIT AND CONFIRMATION OF MECHANICAL MOVEMENT

(1) Install Loading Motor Unit and tighten one screw. (one more screw has to be tightened after installing Pinch Drive Arm Unit, which is explained after.)

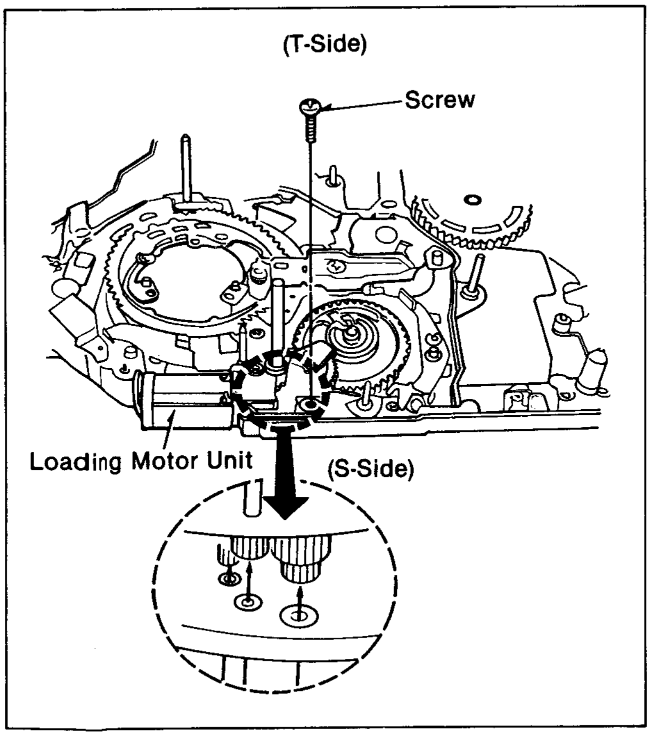

(T-Side)
Screw
Loading Motor Unit
(S-Side)

Fig. M19

(2) Install Pinch Drive Arm Unit and put washer (A).

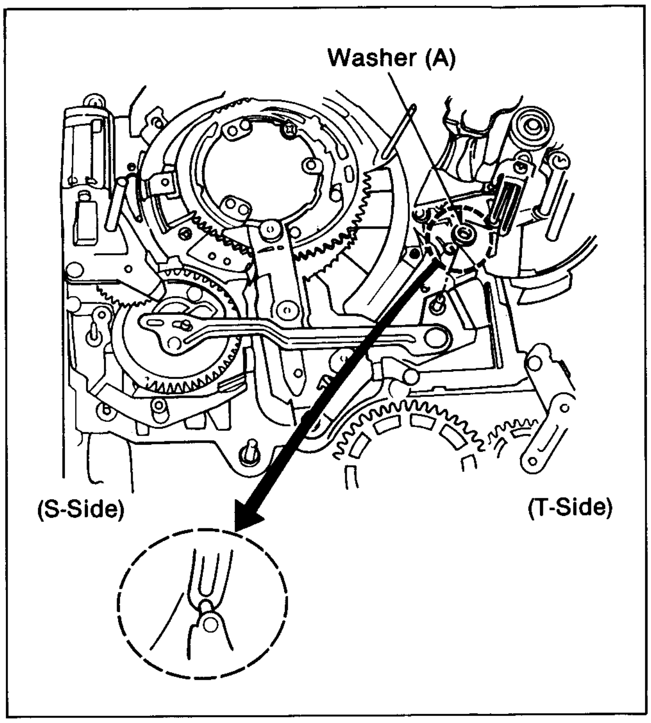

Washer (A)
(S-Side)
(T-Side)

Fig. M20

(3) Move Pinch Roller to the unloading position by finger and put washer (B).

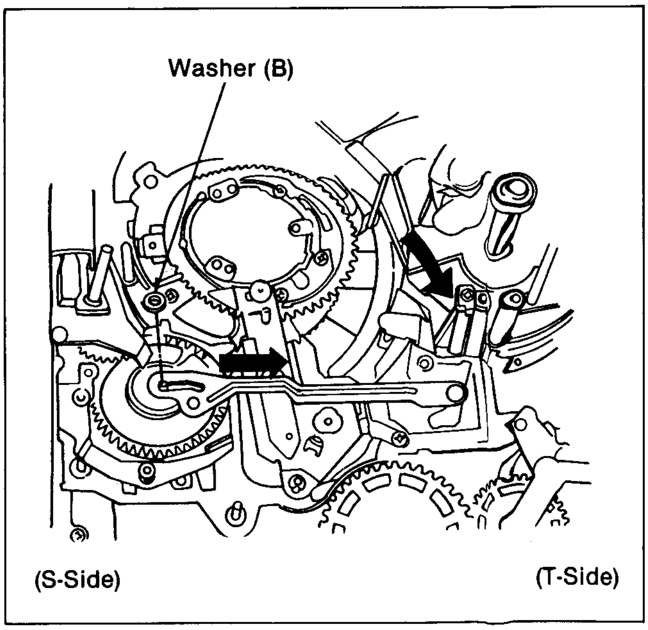

Washer (B)
(S-Side)
(T-Side)

Fig. M21

(4) Slightly move Loading Ring-S in the unloading direction by applying 1.5VDC to Loading Motor and tighten a screw.

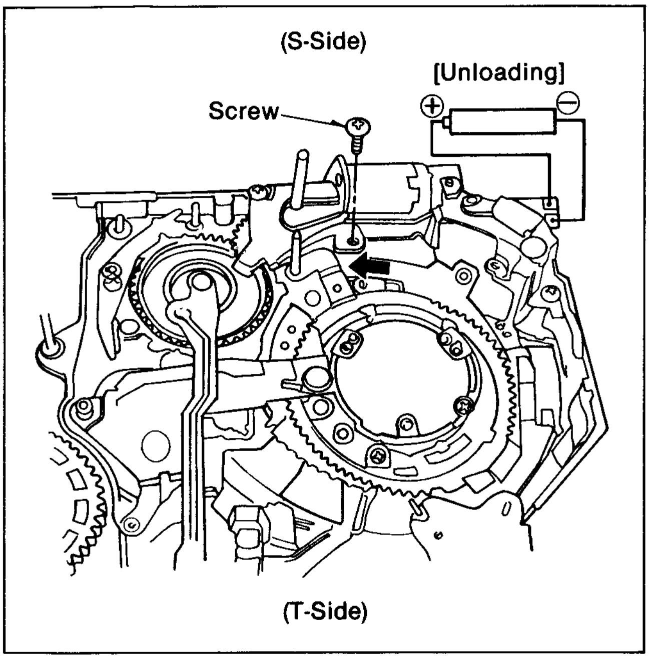

(S-Side)
[Unloading]
Screw
⊕
⊖
(T-Side)

Fig. M22

(5) Confirmation of Mechanical Movement and phase.
In this condition, confirm that the mechanism smoothly moves in both loading and unloading directions by changing the polarity of the battery.
After that, move the mechanism back to the phase adjustment position and confirm all phase marks come to each specific position.

5. ASSEMBLY OF S–RAIL UNIT AND T–RAIL UNIT

(1) Install S–Rail Unit passing Link Post of Ring–S through the linking hole of the S–Rail Unit, and tighten 2 screws.

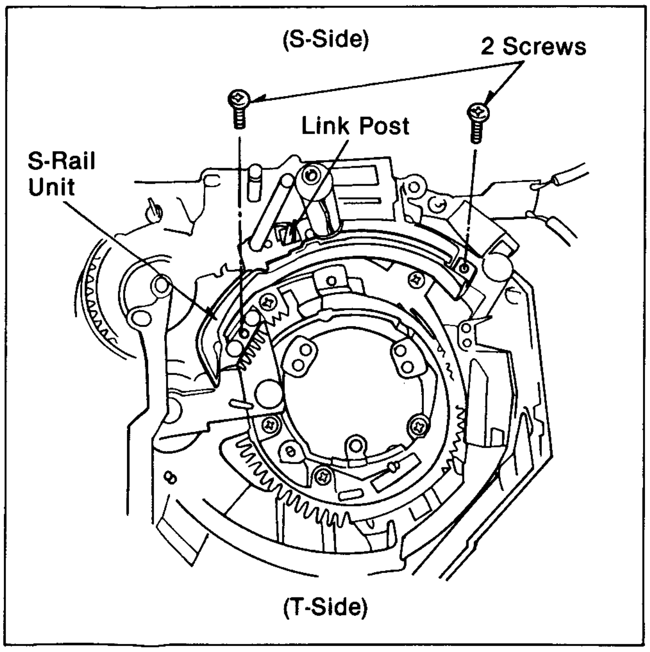

(S-Side)
2 Screws
Link Post
S-Rail Unit
(T-Side)

Fig. M23

(2) In the same way, install T–Rail Unit and tighten 2 screws.
(3) Solder the flexible connector of Sensor LED on the bottom side.

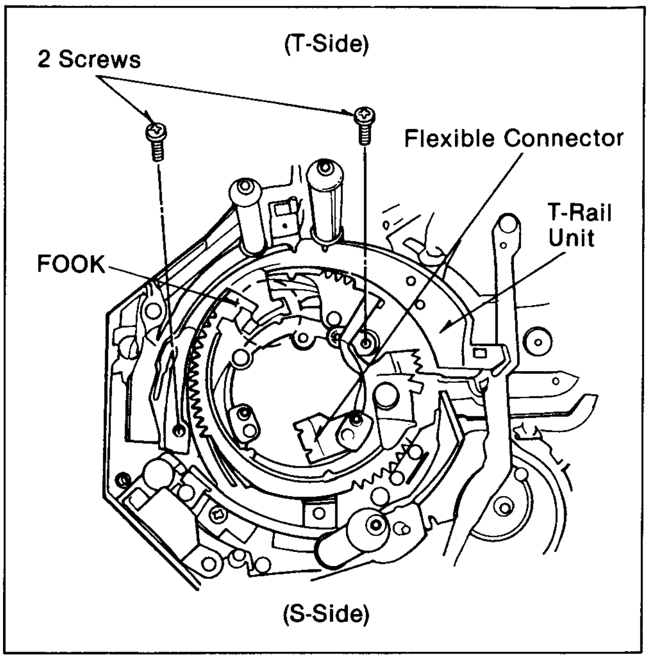

2 Screws
(T-Side)
Flexible Connector
T-Rail Unit
FOOK
(S-Side)

Fig. M24

6. ASSEMBLY OF EJECT LEVER UNIT

(1) Install Eject Lever Unit and link the arm with Eject Lock Base.
(2) Fix Eject Lock Base with 2 screws and Eject Lever Unit with 3 washers.

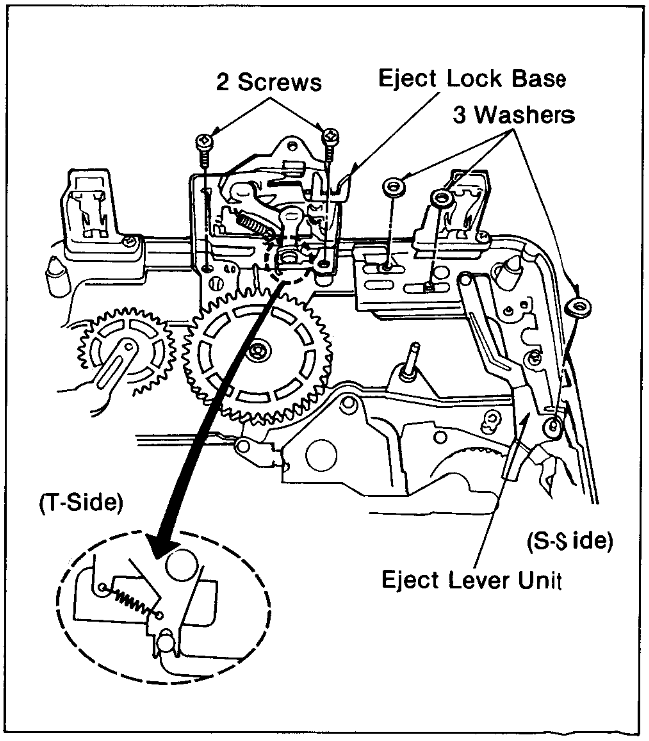

2 Screws
Eject Lock Base
3 Washers
(T-Side)
(S-Side)
Eject Lever Unit

Fig. M25

7. ASSEMBLY OF TENSION REGULATOR UNIT.

(1) Install Tension Regulator Unit so that the guide arm fits in outer inside of Cam Gear.
(2) Put the washer and hook Tenshion Spring to the original position.

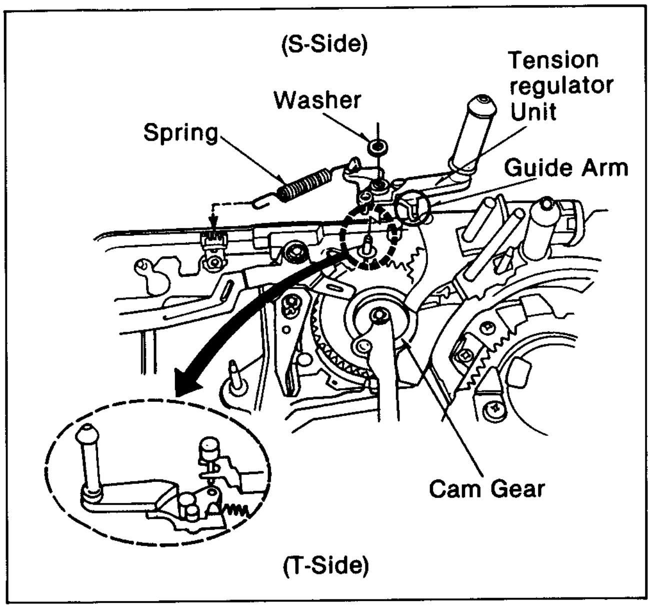

(S-Side)
Tension regulator Unit
Washer
Spring
Guide Arm
Cam Gear
(T-Side)

Fig. M26

8. ASSEMBLY OF SUPPLY REEL TABLE

(1) Install Supply Reel Table and put a washer.

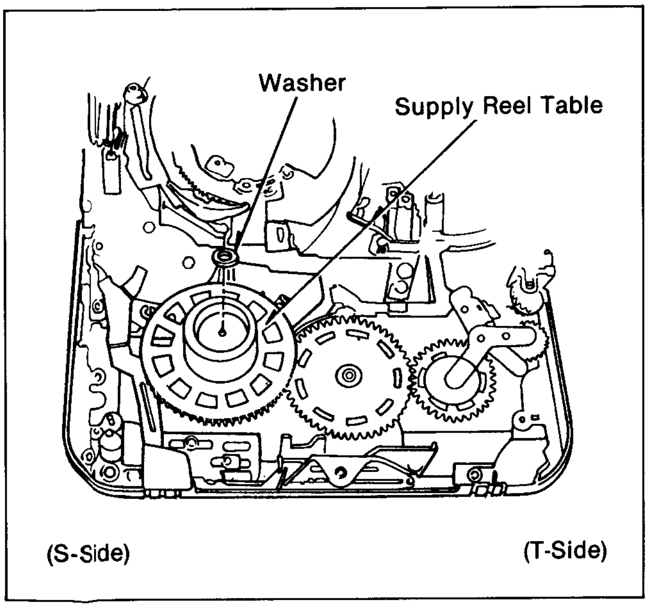

Washer
Supply Reel Table
(S-Side)
(T-Side)

Fig. M27

9. ASSEMBLY OF DD CYLINDER UNIT

(1) Install DD Cylinder unit so that the fixating pins fit into the fixating holes, and tighten 3 screws from the bottom side.

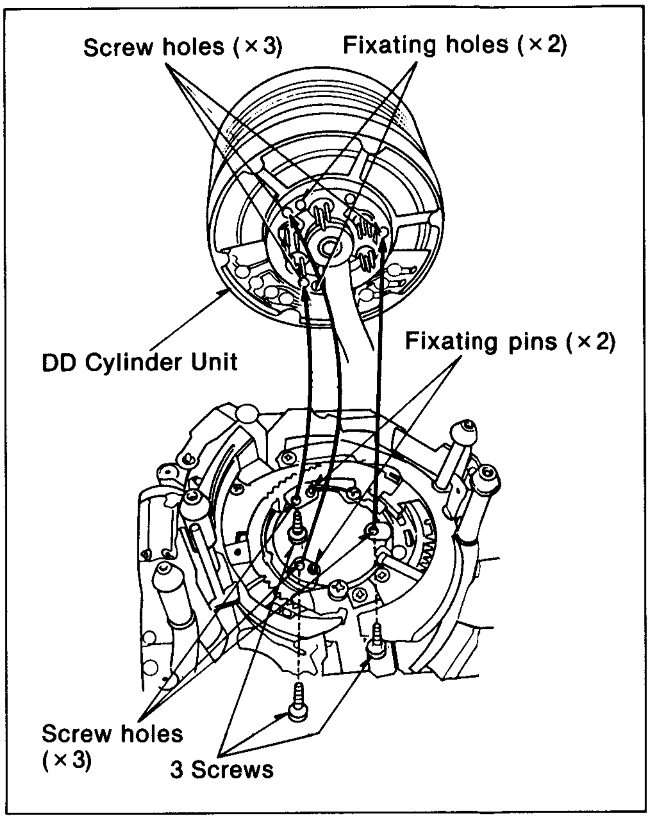

Screw holes (×3)
Fixating holes (×2)
DD Cylinder Unit
Fixating pins (×2)
Screw holes (×3)
3 Screws

Fig. M28

10. ASSEMBLY OF RT CONNECTOR

(1) Hold RT Connector aiming the phase mark of RT Connector (while indication) to the phase mark on the chassis.
(2) Carefully Install the RT Connector passing lead pins of DD Cylinder Unit through each corresponding hole of the RT Connector.

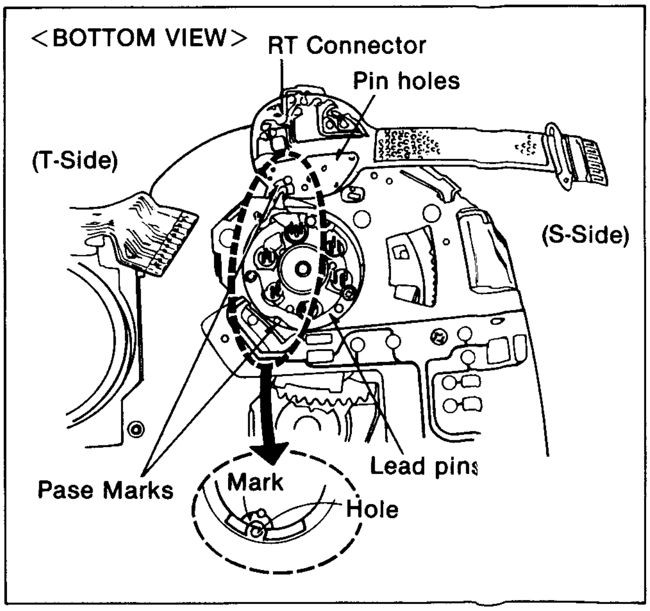

<BOTTOM VIEW>
RT Connector
Pin holes
(T-Side)
(S-Side)
Lead pins
Pase Marks
Mark
Hole

Fig. M29

11. ASSEMBLY OF CASSETTE HOLDER UNIT.

(1) Install Cassette Holder Unit and tighten 4 red screws.
(2) Finally, solder flexible connectors of Supply Photo Sensor, Take up photo Sensor and Loading Motor Unit on the bottom side.

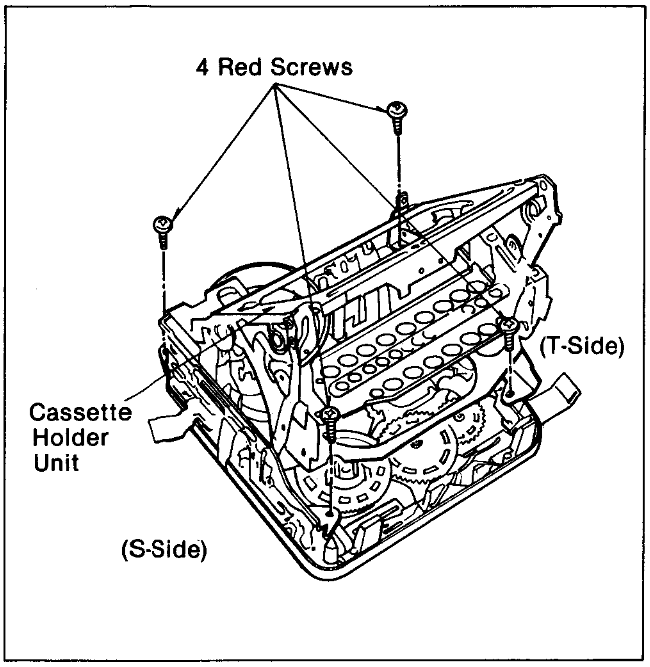

4 Red Screws
(T-Side)
Cassette Holder Unit
(S-Side)

Fig. M30

2-4. INTERCHANGEABILITY ADJUSTMENT

1. BACK TENSION ADJUSTMENT

* Equipment Required
Tension Meter
VHS−C Cassette Tape
Specification 18+3/−1.5g(16.5g∼21g)

(1) Play back (remove the cassette tape cover) tape.
(2) Set Tension Meter at the measuring point and read the value.
(3) If the value is out of specification, change the hooking position of Tension Spring.
(4) Install Cassette Holder Unit.

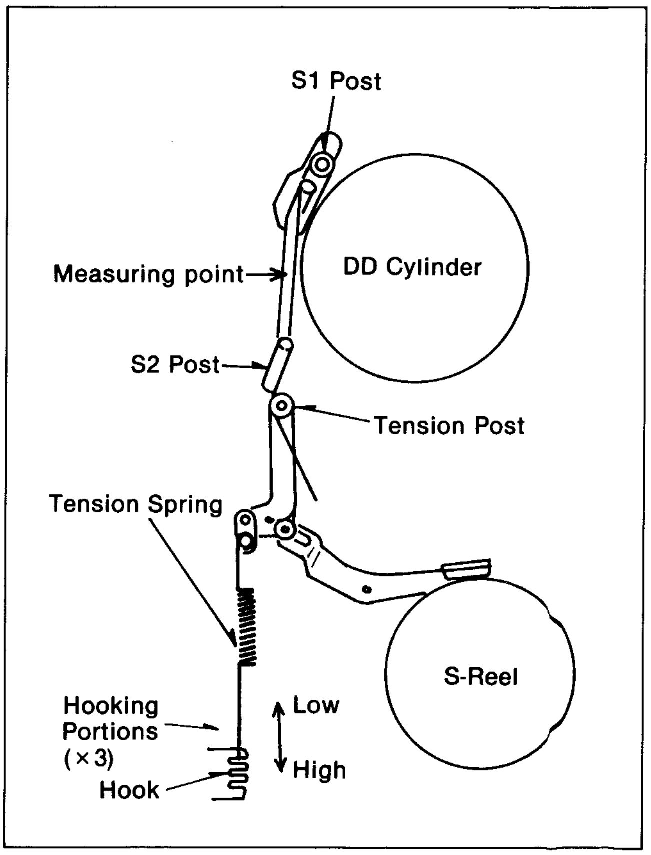

S1 Post
Measuring point
DD Cylinder
S2 Post
Tension Post
Tension Spring
S-Reel
Hooking Portions (×3)
Hook
Low
High

Fig. M31

2. HEIGHT ADJUSTMENT OF TAPE GUIDE POSTS AND A/C HEAD (PRELIMINARY ADJUSTMENT)

Confirmation of Tape Travel

(1) Playback a cassette tape (remove the cassette tape cover) and confirm that the tape travels without curling at upper and lower guides on posts S1,T1,T2 and T3.

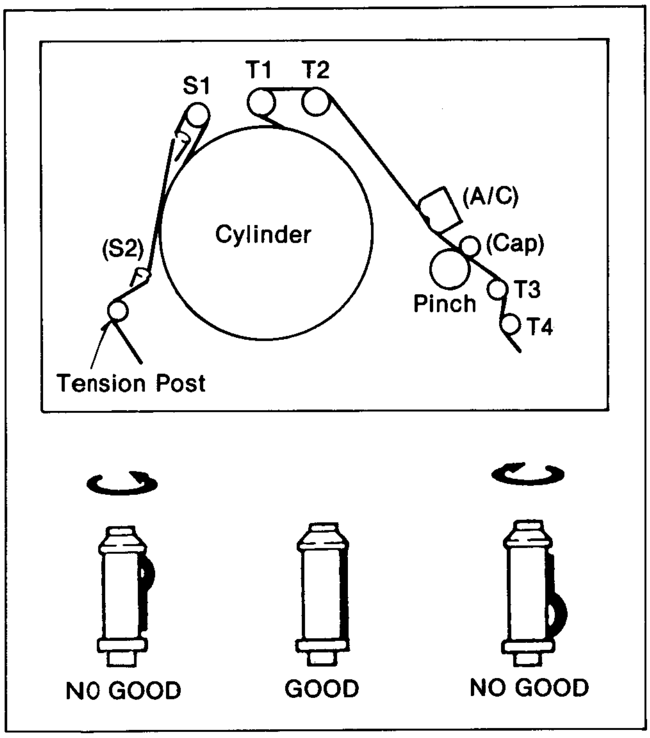

S1
T1
T2
(A/C)
(Cap)
Cylinder
(S2)
Pinch
T3
T4
Tension Post
NO GOOD
GOOD
NO GOOD

Fig. M32

(2) If curling is apparent, adjust the height of posts by turning the top of post With Hex Wrench.

(3) Looking at the lower edge of the control Head with the tape in motion, ensure that lower edge of the tape runs 0.25mm above the lower edge of control Head. If it doesn't, turn the A/C head height Adjustment Nut slightly in either direction as necessary to correct it.

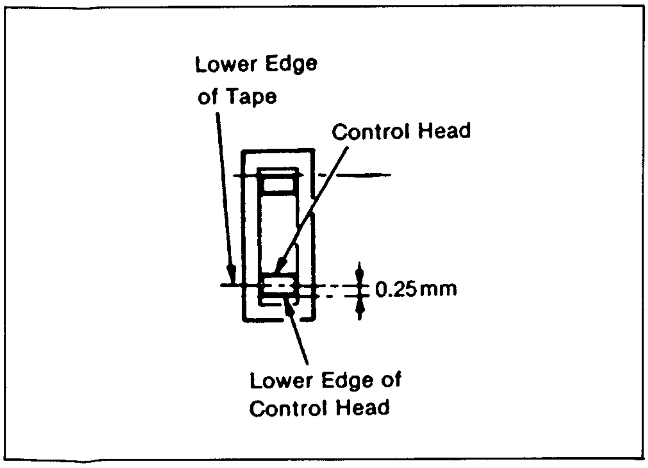

Lower Edge of Tape
Control Head
0.25mm
Lower Edge of Control Head

Fig. M33

3. TAPE INTERCHANEABILITY ADJUSTMENT

NOTE:

To perform these adjustments, make sure that the tracking control is set in the fixed position by Pressing both tracking Up/Down switches at the same time.

* Equipment Required
Dual Trace Oscilloscope
Alignment tape (VFMS0002H6C)
H–Position Adjustment Driver (VFK0743)
Asterisk Type Rench (VFK0824)

[AZIMUTH ADJUSTMENT OF A/C HEAD]

(1) Connect the oscilloscope to Audio Line Output.

(2) Play back the Monoscope portion (6KHZ,MONO) of the Alignment tape.

(3) Adjust the Azimuth Adjustment screw on the A/C Head Unit so that output level is at a maximum.

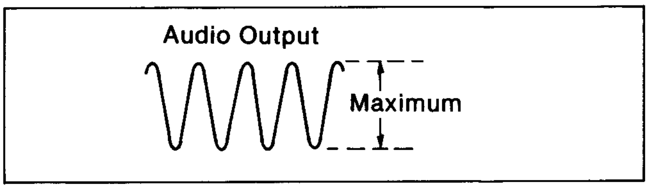

Audio Output
Maximum

Fig. M34

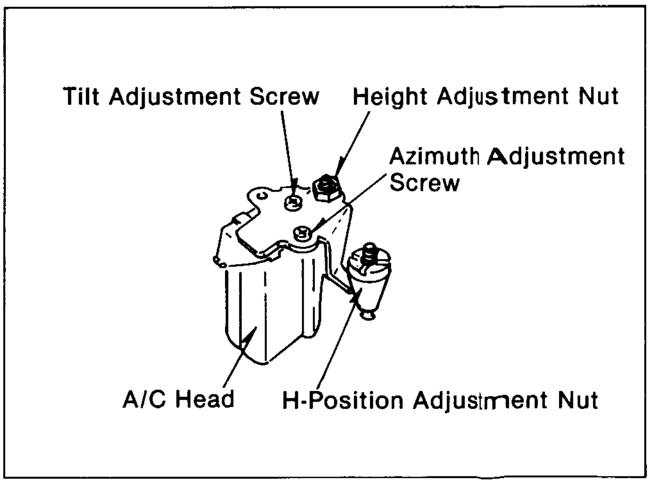

Tilt Adjustment Screw
Height Adjustment Nut
Azimuth Adjustment Screw
A/C Head
H-Position Adjustment Nut

Fig. M35

[HORIZONTAL POSITION ADJUSTMENT OF A/C HEAD]

(1) Connect the oscilloscope to TP8001.
(2) Playback the monoscope portion of the alignment tape.
(3) Adjustment horizontal position by turning H–Position Adjustment Nut so that the envelope level is at a maximum.

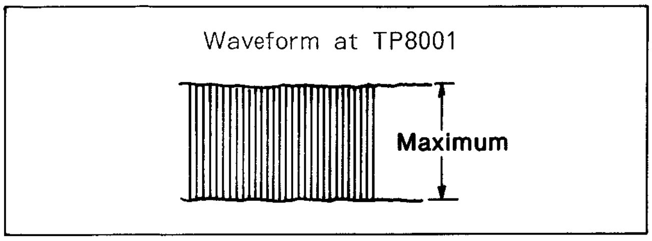

Waveform at TP8001
Maximum

Fig. M36

[CONFIRMATION/ADJUSTMENT OF ENVELOPE]

(1) Set the tracking control to the fixed position by pressing both tracking control Up/Down Switches at the same time, and connect the Oscilloscope to TP8001.
(2) Play back the Monoscope portion of the Alignment Tape and adjust the height of S1 and T1 posts watching the scope display so that the RF envelope becomes as flat as possible.
(3) When the RF envelope is lacked at the beginning of the track, adjust height of S1 post.

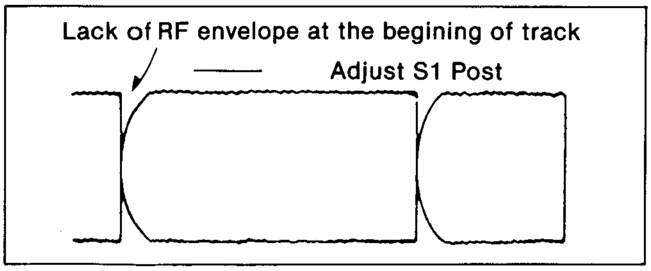

Lack of RF envelope at the begining of track
Adjust S1 Post

Fig. M37

(4) When the RF envelope is lacked at the end of the track, adjust height of T1 post.

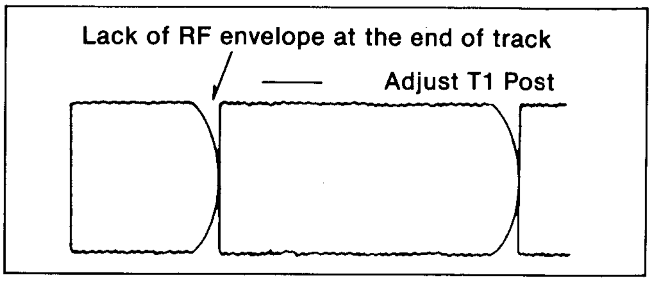

Lack of RF envelope at the end of track
Adjust T1 Post

Fig. M38

(5) When S2 and T1 Posts are adjusted properly, there is no lack of RF Envelope at the beginning or end of the track as shown below.

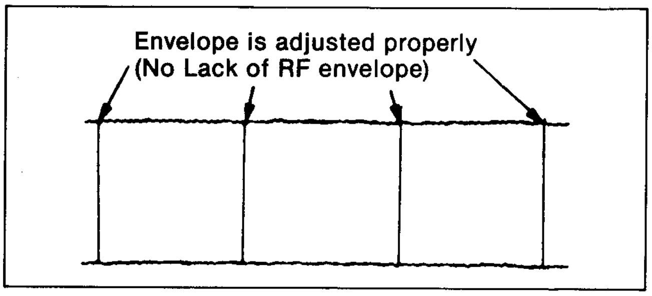
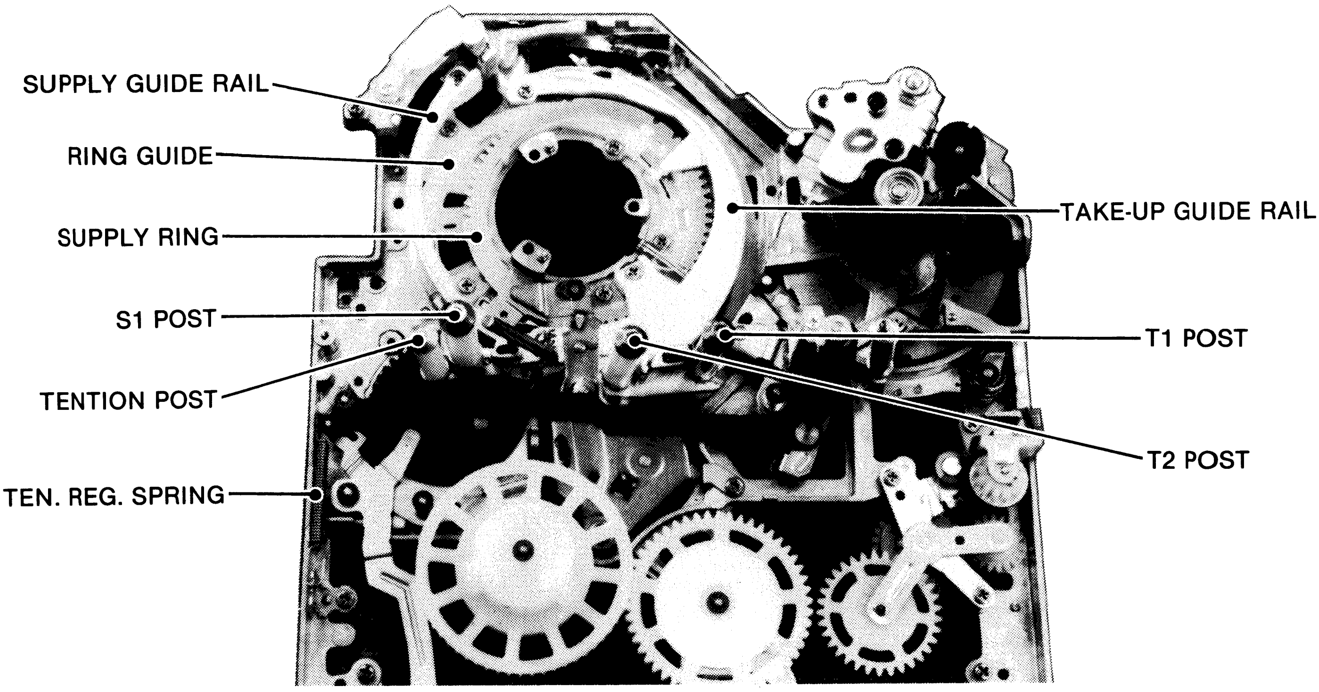

Envelope is adjusted properly
(No Lack of RF envelope)

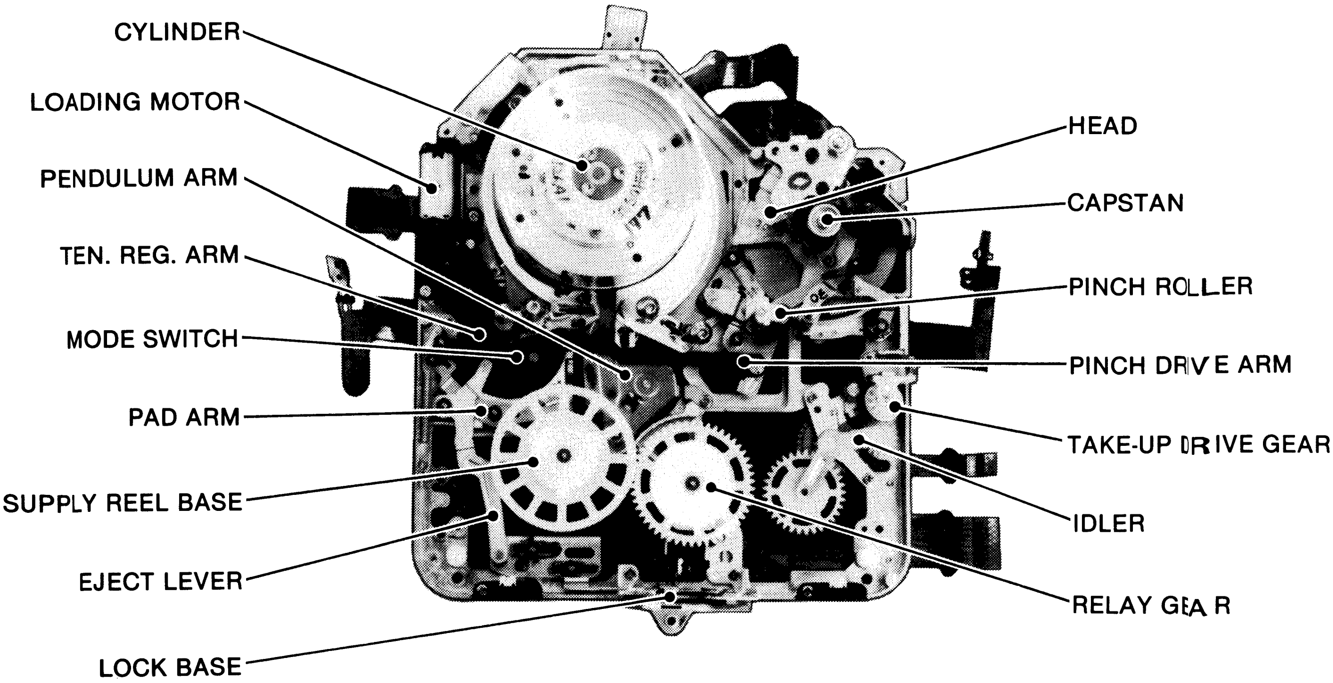
Fig. M39

1 Movement of Mechanism

1. Name of Mechanism


SUPPLY GUIDE RAIL
RING GUIDE
SUPPLY RING
S1 POST
TENTION POST
TEN. REG. SPRING
TAKE-UP GUIDE RAIL
T1 POST
T2 POST

*RING T is located underneath of RING GUIDE


CYLINDER
LOADING MOTOR
PENDULUM ARM
TEN. REG. ARM
MODE SWITCH
PAD ARM
SUPPLY REEL BASE
EJECT LEVER
LOCK BASE
HEAD
CAPSTAN
PINCH ROLLER
PINCH DRIVE ARM
TAKE-UP DRIVE GEAR
IDLER
RELAY GEAR

2. Movement to Mechanism

1. Loading operation

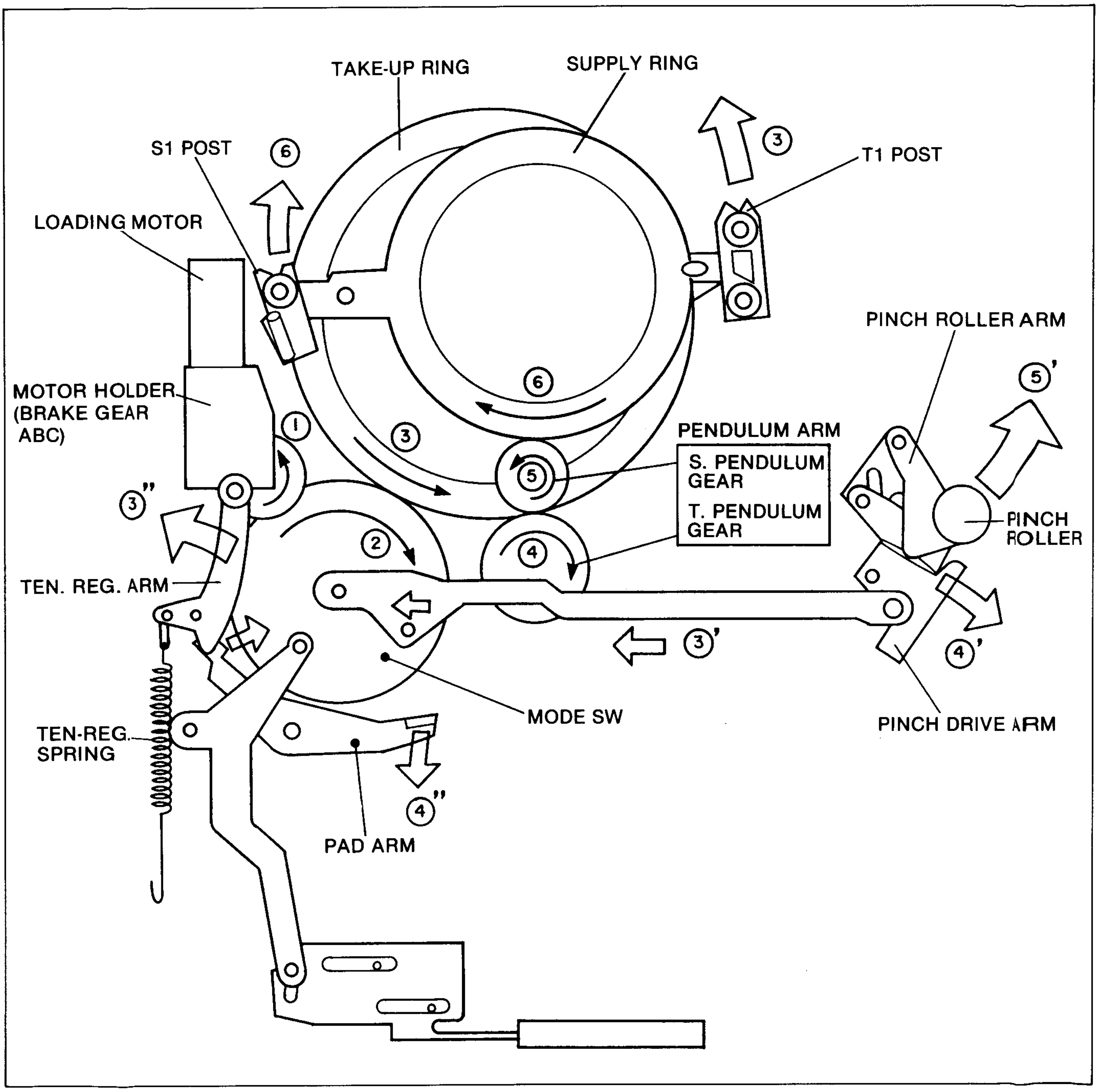

TAKE-UP RING
SUPPLY RING
S1 POST
⑥
③
T1 POST
LOADING MOTOR
PINCH ROLLER ARM
⑤'
⑥
MOTOR HOLDER (BRAKE GEAR ABC)
①
③
PENDULUM ARM
S. PENDULUM GEAR
T. PENDULUM GEAR
⑤
③"
PINCH ROLLER
②
④
TEN. REG. ARM
③'
④'
MODE SW
PINCH DRIVE ARM
TEN-REG. SPRING
④"
PAD ARM

Fig. 1 Loading Mechanism

- Motive power of loading motor is transferred by order of arrow mark.
  - Drive of loading post.
  - Heard Contact Pinchi Roller with capstan shaft. (Play Position)
  - Heard Contact Pad Arm with S. Reel table. (Play Position)

2. Eject operation

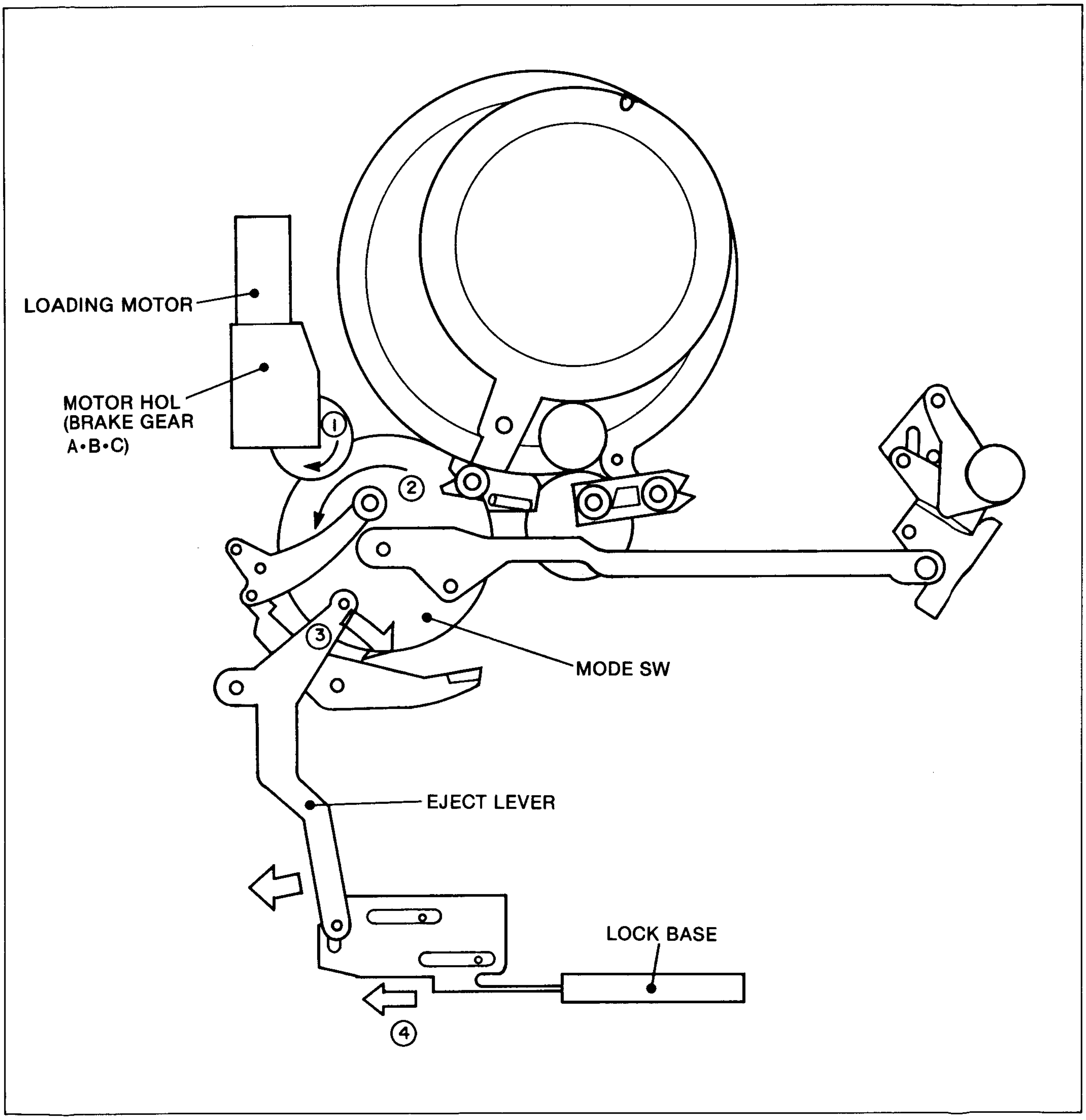

LOADING MOTOR
MOTOR HOL
(BRAKE GEAR
A•B•C)
①
②
③
④
MODE SW
EJECT LEVER
LOCK BASE

Fig. 2 Loading mechanism

- Motive power of loading motor is transferred by numerical order.
  After cassette up operation, those gears are moved to opposite of arrow's direction, to turn back stop1 condition.

3. Movement of Reel table

1. FF operation

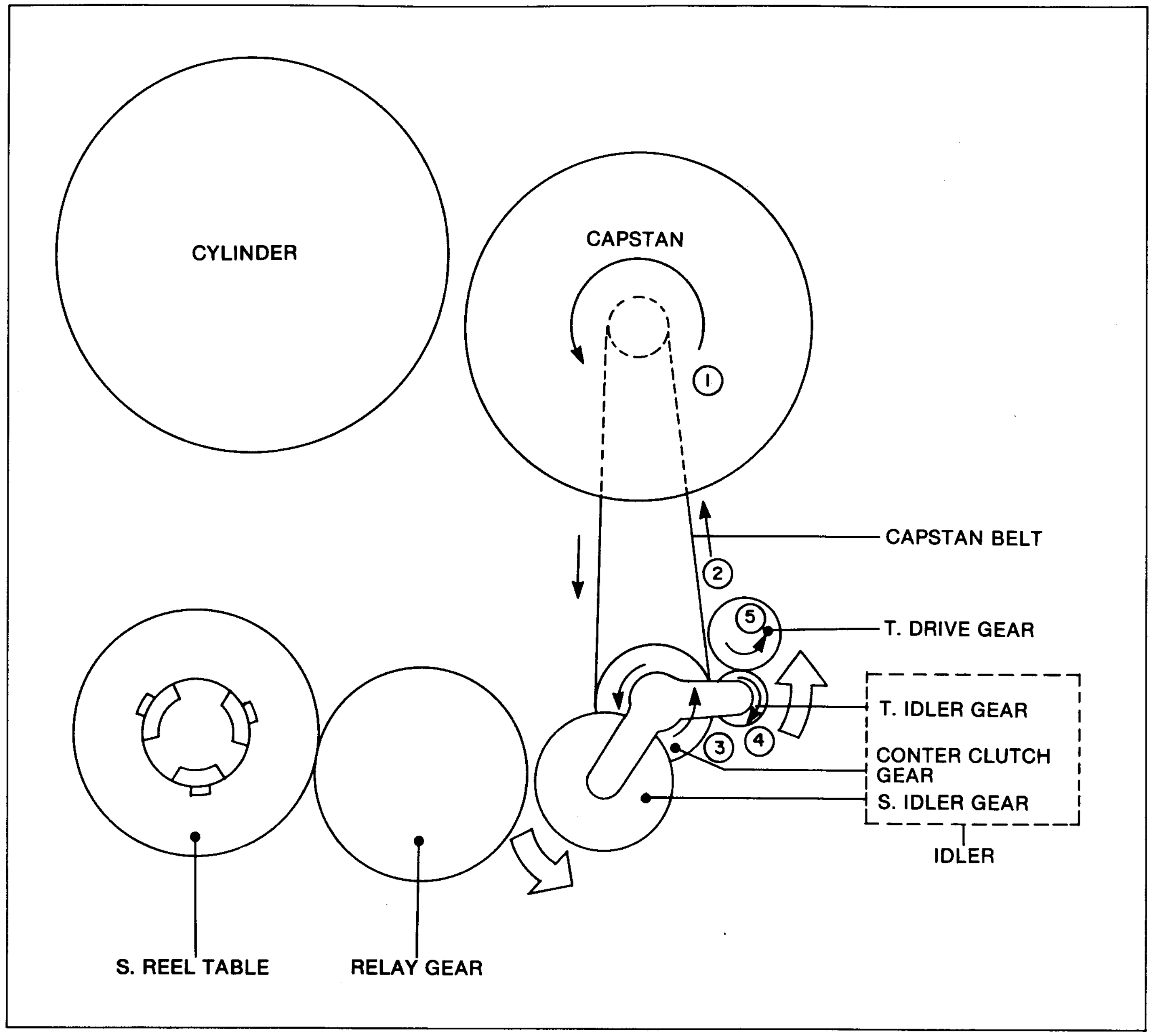

CYLINDER
CAPSTAN
①
CAPSTAN BELT
②
⑤
T. DRIVE GEAR
T. IDLER GEAR
③
④
CONTER CLUTCH GEAR
S. IDLER GEAR
IDLER
S. REEL TABLE
RELAY GEAR

Fig. 3 Take-Up side of Reel Drive

- Motive Power of Capstan motor is transferred to Idler (Center clutch Gear) through the capstan belt.
  At this time, position of Idler is decided by rotation of capstan motor.
  After that, Motive power is transferred by numerical order.
  Finaly, Take-up Reel is rotated by T. Drive Gear.
- Pad Arm is moved by Ten. Reg. Arm, and then contact with lower side of S. Reel table in order to apply back tension to tape.

2. REW operation

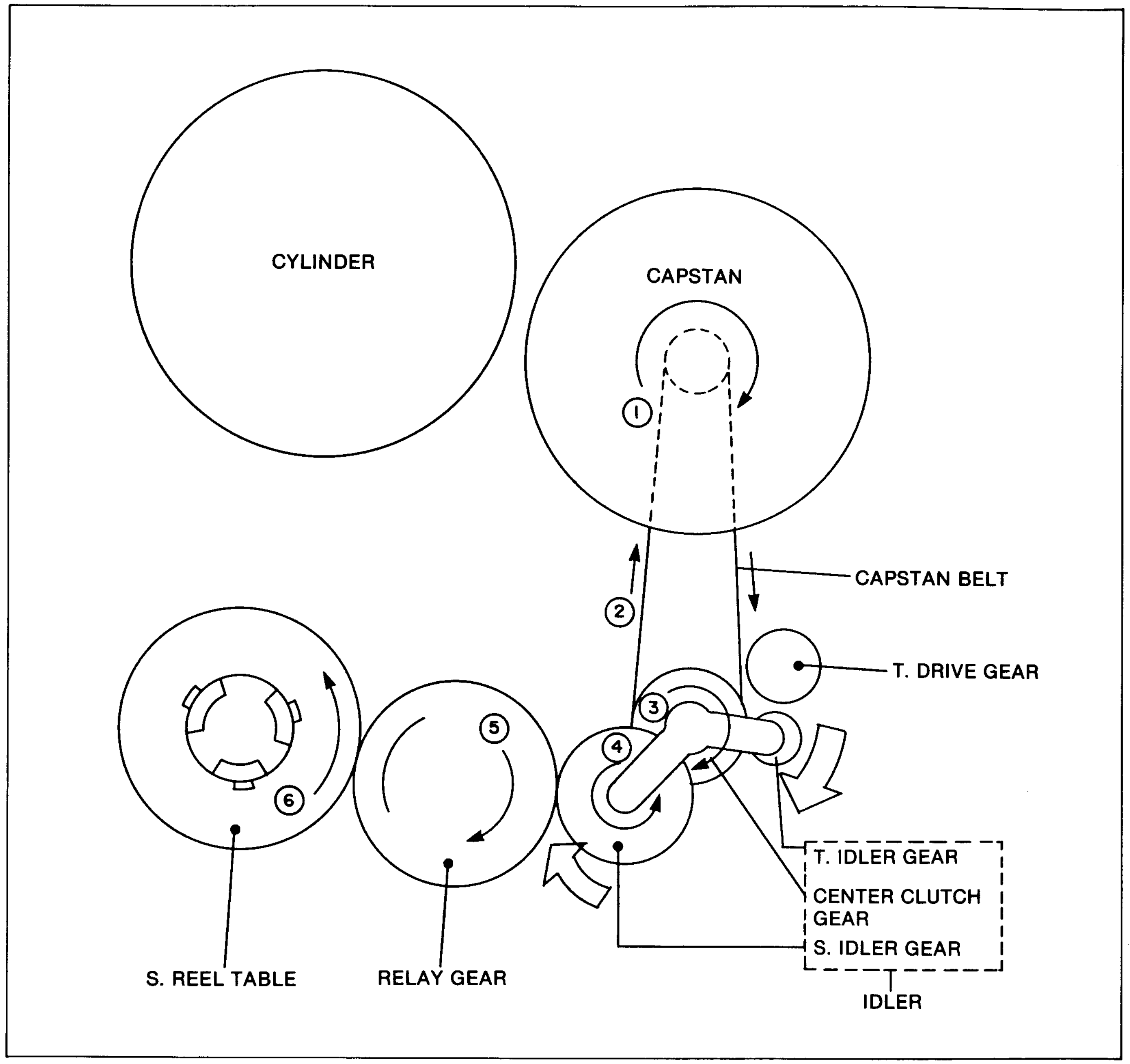

CYLINDER
CAPSTAN
①
CAPSTAN BELT
②
T. DRIVE GEAR
③
④
⑤
⑥
T. IDLER GEAR
CENTER CLUTCH GEAR
S. IDLER GEAR
IDLER
S. REEL TABLE
RELAY GEAR

Fig. 4 Supply side of Reel drive

- Motive power is transmited in numerical order.
- At this time, Idler is contacted to Relay Gear by capstan rotation.
- Also, back tention generate by contact Drive Gear T with REW Torgue spring (Including the Idler unit).

2 Alignment of Mechanism

Following mechanichal phase condition is important for mechanichal alignment.

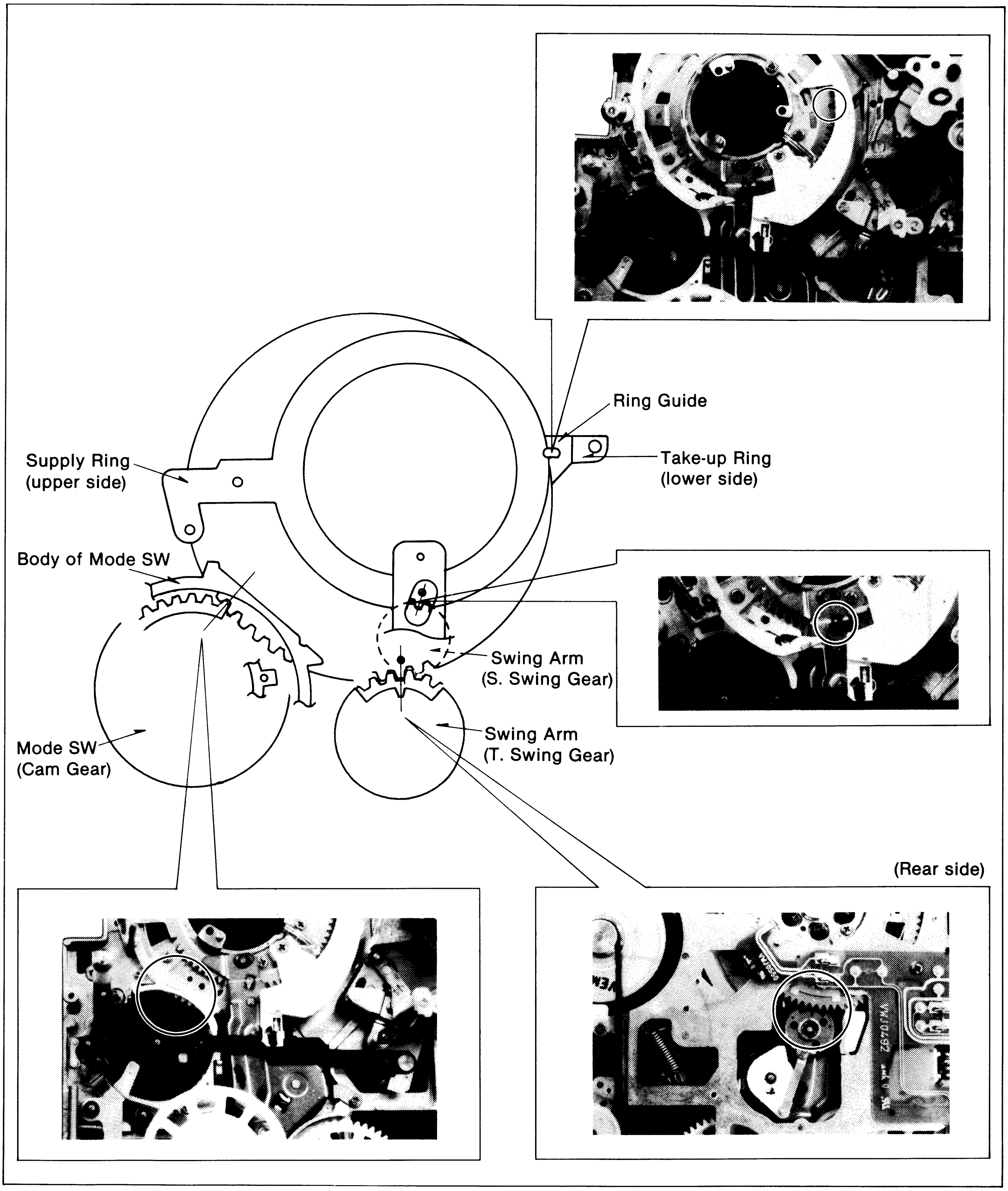
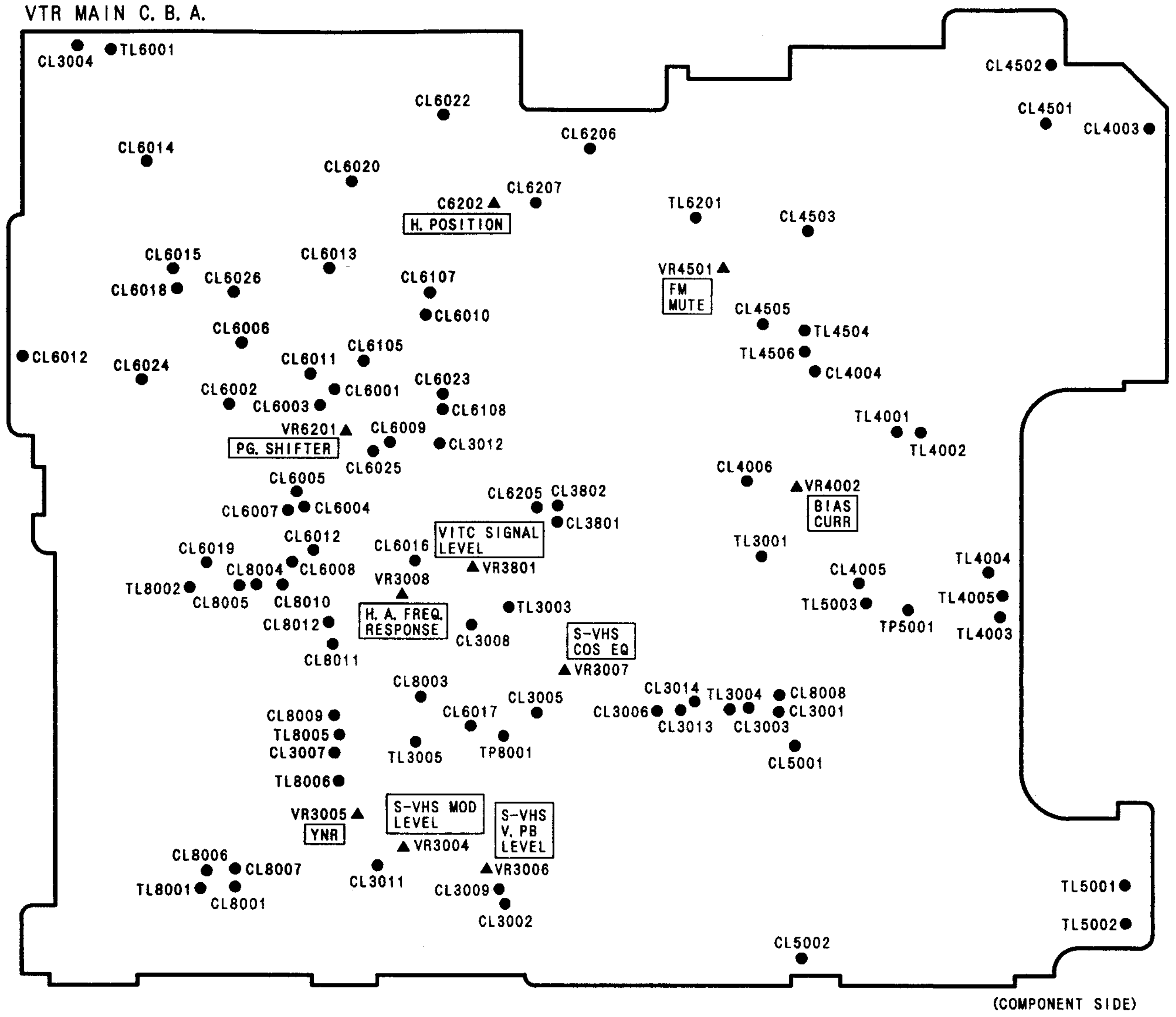
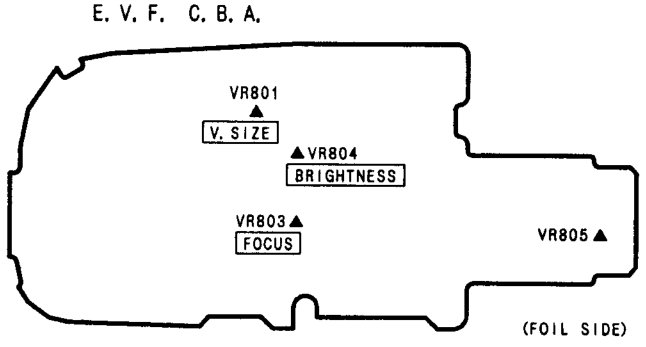

Ring Guide
Supply Ring
(upper side)
Take-up Ring
(lower side)
Body of Mode SW
Swing Arm
(S. Swing Gear)
Mode SW
(Cam Gear)
Swing Arm
(T. Swing Gear)
(Rear side)

Fig. 5 Mechanism Phase

LOCATION OF TEST POINTS & CONTROLS


VTR MAIN C. B. A.
CL3004
TL6001
CL6022
CL6206
CL6014
CL6020
CL6207
C6202
H. POSITION
TL6201
CL4503
CL4502
CL4501
CL4003
CL6015
CL6013
CL6018
CL6026
CL6107
CL6010
CL6006
CL6105
CL6012
CL6024
CL6011
CL6002
CL6001
CL6003
CL6023
CL6108
VR6201
CL6009
PG. SHIFTER
CL3012
CL6025
CL6005
CL6205
CL3802
CL6007
CL6004
CL3801
VITC SIGNAL LEVEL
VR3801
CL6019
CL6012
CL6016
CL8004
CL6008
VR3008
TL8002
CL8005
CL8010
H. A. FREQ. RESPONSE
TL3003
CL8012
CL3008
S-VHS COS EQ
VR3007
CL8011
CL8003
CL3005
CL6017
CL8009
TL8005
CL3007
TL3005
TP8001
TL8006
VR3005
YNR
S-VHS MOD LEVEL
VR3004
S-VHS V. PB LEVEL
VR3006
CL8006
CL8007
TL8001
CL8001
CL3011
CL3009
CL3002
VR4501
FM MUTE
CL4505
TL4504
TL4506
CL4004
TL4001
TL4002
CL4006
VR4002
BIAS CURR
TL3001
CL4005
TL4004
TL5003
TP5001
TL4005
TL4003
CL3014
TL3004
CL8008
CL3006
CL3001
CL3013
CL3003
CL5001
TL5001
TL5002
CL5002
(COMPONENT SIDE)


E. V. F. C. B. A.
VR801
V. SIZE
VR804
BRIGHTNESS
VR803
FOCUS
VR805
(FOIL SIDE)

2-5. ELECTRICAL ADJUSTMENT PROCEDURES

2-5-1. ELECTRICAL ADJUSTMENT FOR VTR SECTION

TEST EQUIPMENT AND TOOLS

The following equipments are required for adjustment of the VTR section of S-VHS-C Movie.

1. VTVM (Vacum Tube Volt Meter)
   DVM (Digital Volt Meter)
   Voltage Range : 0.01-50V
2. Dual Trace Oscilloscope.
   Voltage Range : 0.06-50V/div
   Frequency Range: 0-50MHz
   Probe :10:1 or 1:1
3. Frequency Counter
   Frequency Range: 0-10MHz
4. Signal Generator (Sinewave)
   Frequency Range: 0-10MHz
5. Video Sweep Generator
   Frequency Range: 0-10MHz
6. Colour Monitor TV
7. Plastic Tip Driver
8. VHS-C Movie Aligment Tape (VFM8180HUPF)
9. VHS-C Blank Tape
10. Pattern Generator
11. Vectorscope
12. DC Power Supply

PREPARATION

1. Remove the casing panels.
   (Please refer to disassembly method)
2. Connect the extension cables if necessary.
   (Refer to Tecnical Information part)

Note: Triggering the Oscilloscope

To trigger the Oscilloscope, the following test point is used.

H. Rate : B302-4 (Y Signal)
V. Rate : B302-3 (VD Signal)

HOW TO READ THE ADJUSTMENT PROCEDURES

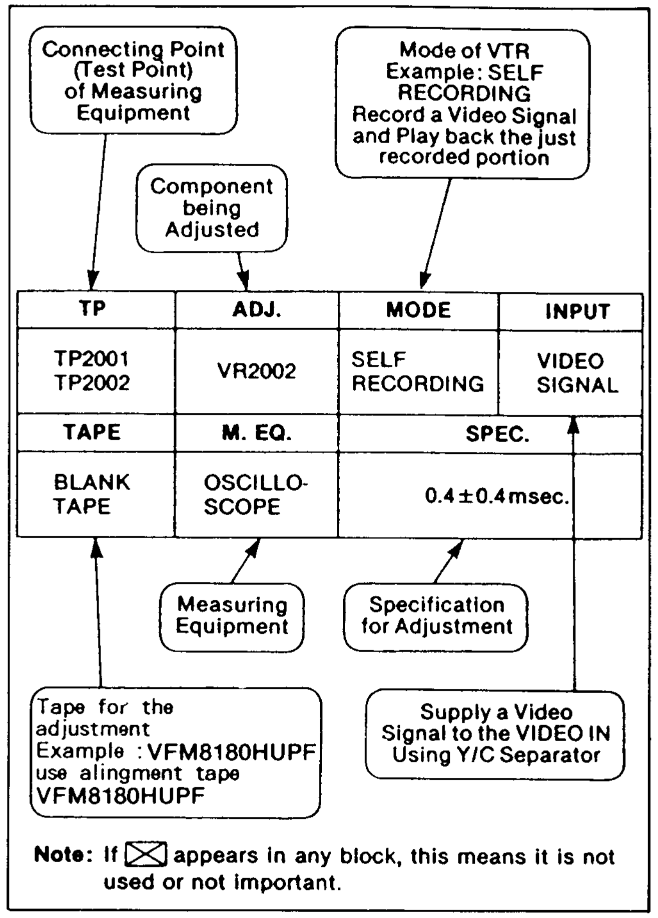

Connecting Point (Test Point) of Measuring Equipment
Component being Adjusted
Mode of VTR Example: SELF RECORDING Record a Video Signal and Play back the just recorded portion
TP
ADJ.
MODE
INPUT
TP2001
TP2002
VR2002
SELF RECORDING
VIDEO SIGNAL
TAPE
M. EQ.
SPEC.
BLANK TAPE
OSCILLO-SCOPE
0.4±0.4msec.
Measuring Equipment
Specification for Adjustment
Tape for the adjustment Example : VFM8180HUPF use alingment tape VFM8180HUPF
Supply a Video Signal to the VIDEO IN Using Y/C Separator
Note: If ☒ appears in any block, this means it is not used or not important.

Fig. VI

1. SERVO SECTION

(1). PG SHIFTER ADJUSTMENT

Purpose:

Determine the Head Switching point during playback.

Symptom of Misadjustment:

May Cause Head Switching Noise and or Vertical Jitter in the picture.

T P	ADJ.	MODE	INPUT
B6007-6 VIDEO OUT	VR6201	PLAY	- - - - - - - -
TAPE	**M. EQ**	**SPEC.**	
ALIGNMENT TAPE VFM8180HUPF	OSCILLOSCOPE	6.5 ± 0.5H	

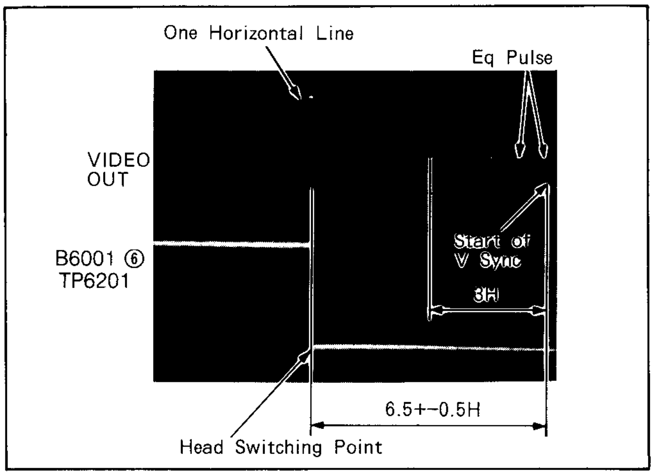


Fig. V2

2. LUMINANCE & CHROMINANCE SECTION

(2). S-VHS WHITE PEAK FREQUENCY ADJUSTMENT

T P	ADJ.	MODE	INPUT
TL3003 VIDEO OUT	VR3004	S-VHS STOP	COLOUR BAR B6007-7
TAPE	**M. EQ**	**SPEC.**	
- - - - -	OSCILLOSCOPE	6.85 ± 0.05MHz	

1. Short the B6007-6 and B6007-10.
2. Supply Colour Bar signal to B6007-7.
3. Set the S-VHS button to S-VHS mode.
4. Connect the oscilloscope to TL3003.
5. Adjust the VR3004 so that the signal frequency is 6.85 ± 0.05MHz.

(3). RECORDING CURRENT ADJUSTMENT

(See Adjustment SERVICE MANUAL:
Order No. VMD9308M125.)

(2). YNR ADJUSTMENT

Purpose:

Improve the overall S/N Ratio especially in the Low Frequency Component.

Symptom of Misadjustment:

The S/N ratio is low.

T P	ADJ.	MODE	INPUT
TL3004	VR3002	PLAYBACK	- - - - - -
TAPE	**M. EQ**	**SPEC**	
ALIGNMENT TAPE VFM8180HUPF	OSCILLOSCOPE	SIGNAL IS MINIMIZED (LESS THAN 50mV)	

1. Playback the alignment tape.
2. Connect the oscilloscope to TL3004.
3. Adjust VR3002 so that signal is minimized.

(4) S-VHS PLAYBACK LEVEL ADJUSTMENT

T P	ADJ.	MODE	INPUT
S-VHS VIDEO OUT	VR3006	S-VHS REC/ PLAYBACK	COLOUR BAR B6007-7
TAPE	**M. EQ**	**SPEC.**	
S-VHS-C BLANK TAPE	OSCILLOSCOPE	1.0 ± 0.05Vp-p	

1. Connect a jumper between B6007-6 and B6007-10.
2. Supply the Video signal to B6007-7.
3. Set the unit to S-VHS mode.
4. Record the signal for few minutes.
5. Playback the recorded signal.
6. Adjust the VR3006 so that the signal level is 1.0 ± 0.1 Vp-p

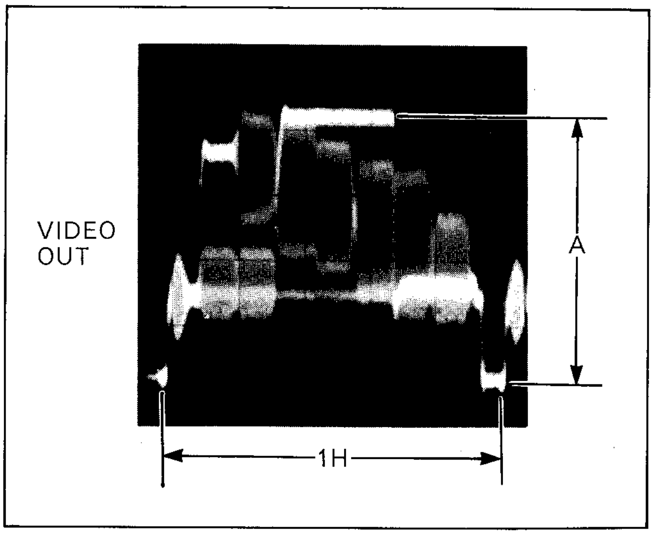
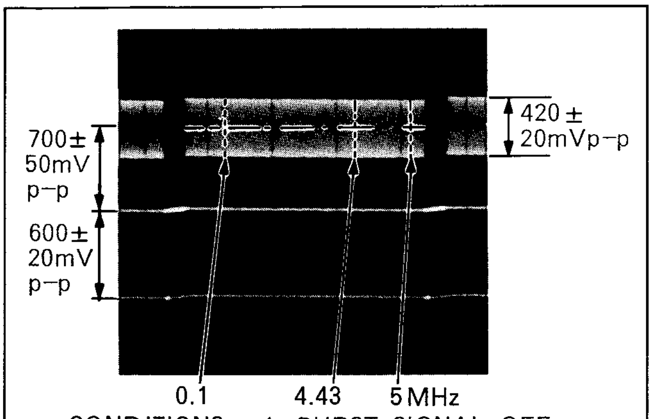


Fig. V3

(5) COSINE EQUALIZER ADJUSTMENT

T P	ADJ.	MODE	INPUT
S-VHS VIDEO OUT	VR3008	S-VHS REC/ PLAYBACK	VIDEO SWEEP SIGNAL B6007-7
TAPE	**M. EQ**	**SPEC.**	
S-VHS-C BLANK TAPE	VIDEO SWEEP GENE./ OSCILLOSCOPE	4MHz:0.1MHz = 2.5:4 (-4±1dB(62.5%))	

1. Set the sweep generator output as shown below.



CONDITIONS : 1. BURST SIGNAL OFF
2. 75ohm TERMINATED

Fig. V4

2. Connect a jumper between B6007-6 and B6007-10.
3. Supply sweep signal to B6007-7.

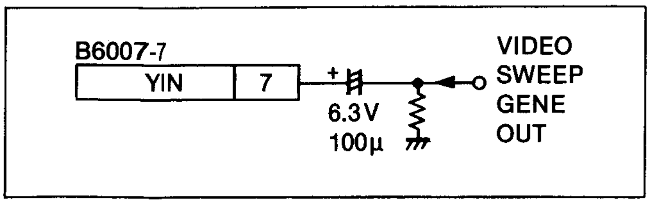


Fig. V5

4. Set the S-VHS button to S-VHS mode.
5. Record the signal for few minutes.
6. Playback the recorded signal.
7. Adjust the VR3008 so that level at 4MHz is with in spec. as shown below.

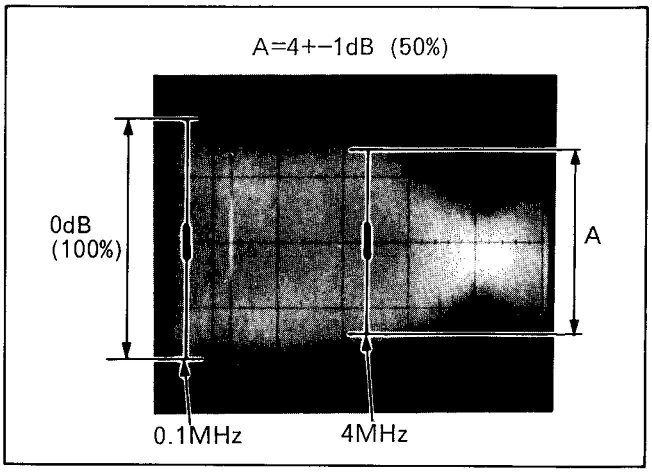


Fig. V6

(6) . HEAD AMP FREQUENCY RESPONCE ADJUSTMENT

Purpose:
To improve Video Frequency Response Level.

Symptom of Misadjustment:
Video Frequency Response deteriorates.
Picuture becomes noisy.

T P	ADJ.	MODE	INPUT
VIDEO OUT	VR3003	VHS REC/ PLAYBACK	VIDEO SWEEP SIGNAL B6007-7
TAPE	**M. EQ**	**SPEC**	
VHS-C BLANK TAPE	VIDEO SWEEP GENE./ OSCILLOSCOPE	2MHz:0.1MHz = 1:1 (-0±1dB(100%))	

1. Set the sweep generator output as shown below.
2. Connect a jumper between B6007-6 and B6007-10.
3. Supply sweep signal to B6007-7.
4. Record the signal for few minutes.
5. Playback the recorded signal.
6. Adjust the VR3003 so that level at 2MHz is with in spec. as shown below.

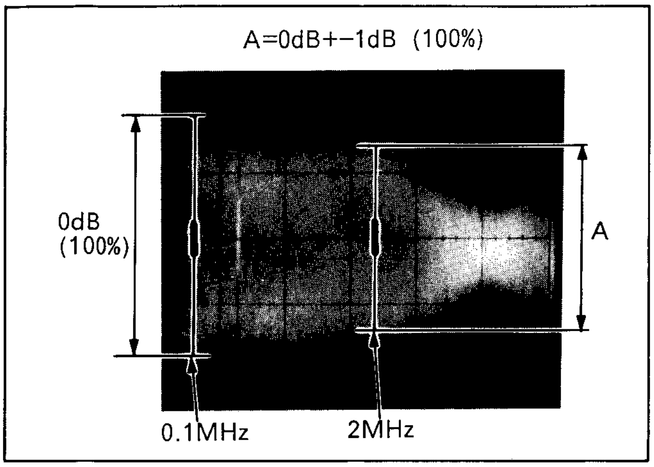


Fig. V7

3. AUDIO SECTION

(7). AUDIO BIAS CURRENT ADJUSTMENT

T P	ADJ.	MODE	INPUT
TL4001(HOT) TL4002(GND)	VR4002	REC	— — — — — —
TAPE	**M. EQ**	**SPEC**	
BLANK TAPE	OSCILLOSCOPE VTVM	7.6 ±0.3 Vp-p (2.7±0.1 mVrms)	

1. Disconnect connector P4301 or P4001.
2. Connect the oscilloscope to TL4001(HOT) and TL4002(GND).
3. Record it for a while.
4. Adjust VR4002 until signal level is 7.6±0.3mVp-p

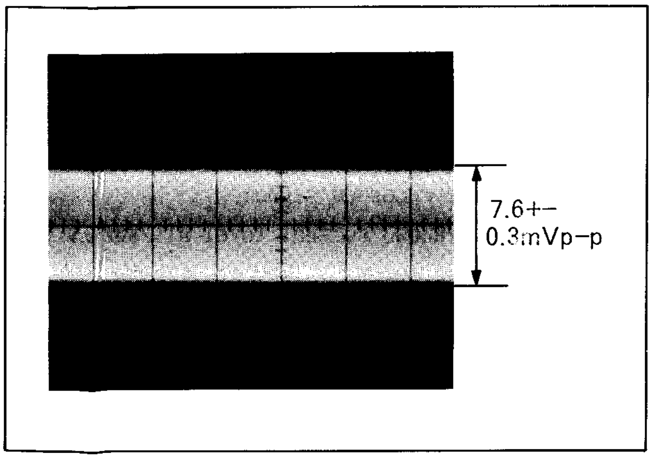


Fig. V8

3. Hi-Fi AUDIO SECTION

(8). RECORDING CURRENT ADJUSTMENT

(See Adjustment SERVICE MANUAL:
Order No. VMD9308M125.)

(9). AUDIO MUTING ADJUSTMENT

T P	ADJ.	MODE	INPUT
TP5001	VR4501	PLAYBACK	— — — — — —
TAPE	**M. EQ**	**SPEC**	
VFM8180HUPF	OSCILLOSCOPE	— — — — — — — — — — — —	

Note:

Tape Interchangeability Adjustment (Mechanical) must be completed before this adjustment.

1. Playback the Aligment tape (FM Audio 6KHz part).
2. Push the Tracking Button until signal level at TP5001 becomes maximum.
3. Adjust VR4501 to anti-clockwise until sound mode change to normal from Hi-Fi mode, and return it to clockwise until sound mode change to Hi-Fi from Normal mode.

4. SYSTEM CONTROL SECTION

(10). CHARACTER POSITION ADJUSTMENT

T P	ADJ.	MODE	INPUT
MONITOR TV	C6202	PAUSE	COLOUR BAR
TAPE	**M. EQ**	**SPEC**	
— — — — — —	MONITOR TV	— — — — — — — — — — — —	

1. Connect the EVF unit to the VTR unit.
2. Supply the colour bar signal from B6007-7.
3. Push [TRACKING/SHIFT], [TAPE], and [DATE/TIME] button simulataneously.
4. Adjust the C6202 so that the character position is as shown below.

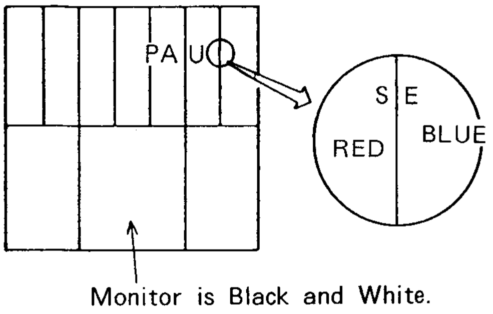

PA
U
S
E
RED
BLUE
Monitor is Black and White.

Fig. V9

(11). VITC SIGNAL LEVEL ADJUSTMENT

T P	ADJ.	MODE	INPUT
VIDEO OUT	VR3801	STOP	— — — — — —
TAPE	**M. EQ**	**SPEC**	
— — — — — —	OSCILLOSCOPE	A = 540+-20mVp-p — — — — — — —	

1. Cover the lens by your hands.
2. Connect the Video Out to oscilloscope.
3. Adjust the VR3801 so that VITC signal is 540±20mVp-p.

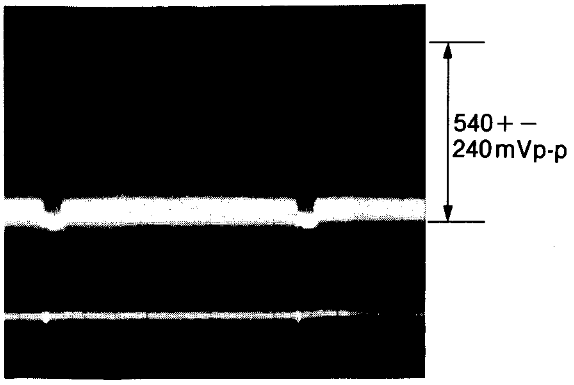

540+−
240mVp-p

Fig. V10

2-5-2. ELECTRICAL ADJUSTMENT FOR LCD E.V.F. SECTION

NOTE:

a). Connect the Viewfinder to the unit.

b). The camera circuit must be completely aligned before viewfinder adjustments are made.

(1). CENTREING ADJUSTMENT

1. Aim the camera at the registration chart.
2. Adjust the deflection yoke centreing magnets turning them so that the picture on monitor TV is centred.

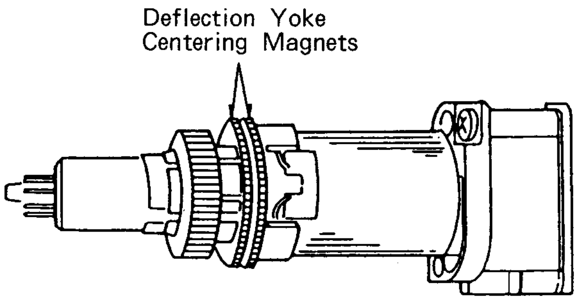

Deflection Yoke
Centering Magnets

Fig. E1

(2). FOCUS ADJUSTMET

T P	ADJ.	LENS CAP	CHART
— — — — — —	VR803	NO	BALL CHART
M. EQ		SPEC	
VIEWFINDER		BEST RESOLUTION	

NOTE: VR803 : E.V.F. C.B.A.

1. Aim the camera at the Ball chart.
2. Adjust the VR803 for best resolution in viewfinder.

NOTE:

After performing this adjustment, confirm position of "A" part on the VR803.
"A" part must be outside of 100degree.
When "A" part is inside of 100degree, must be re-adjust it.

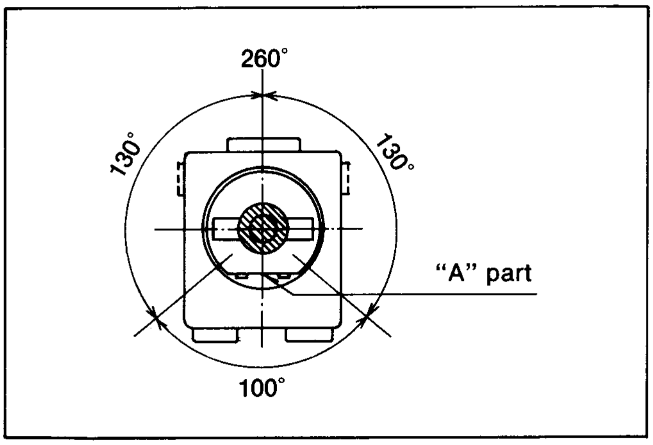


Fig. E2

(3). VERTICAL SIZE ADJUSTMET

T P	ADJ.	LENS CAP	CHART
— — — — — —	VR801	NO	GRAY SCALE CHART
M. EQ		SPEC	
VIEWFINDER		VERTICAL SIZE IS FIXED	

NOTE: VR801 : E.V.F. C.B.A.

1. Aim the camera at the Gray scale chart.
2. Adjust the VR801 for best vertical size.
   (Picture does not roll as shown below.)

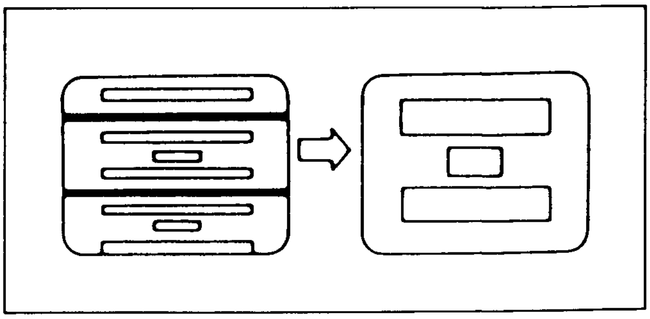


Fig. E3

(4). BRIGHTNESS ADJUSTMET

T P	ADJ.	LENS CAP	CHART
— — — — — —	VR804	NO	GRAY SCALE CHART
M. EQ		SPEC	
VIEWFINDER		NATULAL GRADATION	

NOTE: VR804 : E.V.F. C.B.A.

1. Aim the camera at the Gray scale chart.
2. Adjust the VR804 so that the brightness in the E.V.F. screen is the same as monitor TV screen.

(5). A.P.S. SENSITIVITY ADJUSTMENT.

(See Adjustment SERVICE MANUAL:
Order No. VMD9308M125.)

SECTION 3
BLOCK DIAGRAMS & SCHEMATIC DIAGRAMS

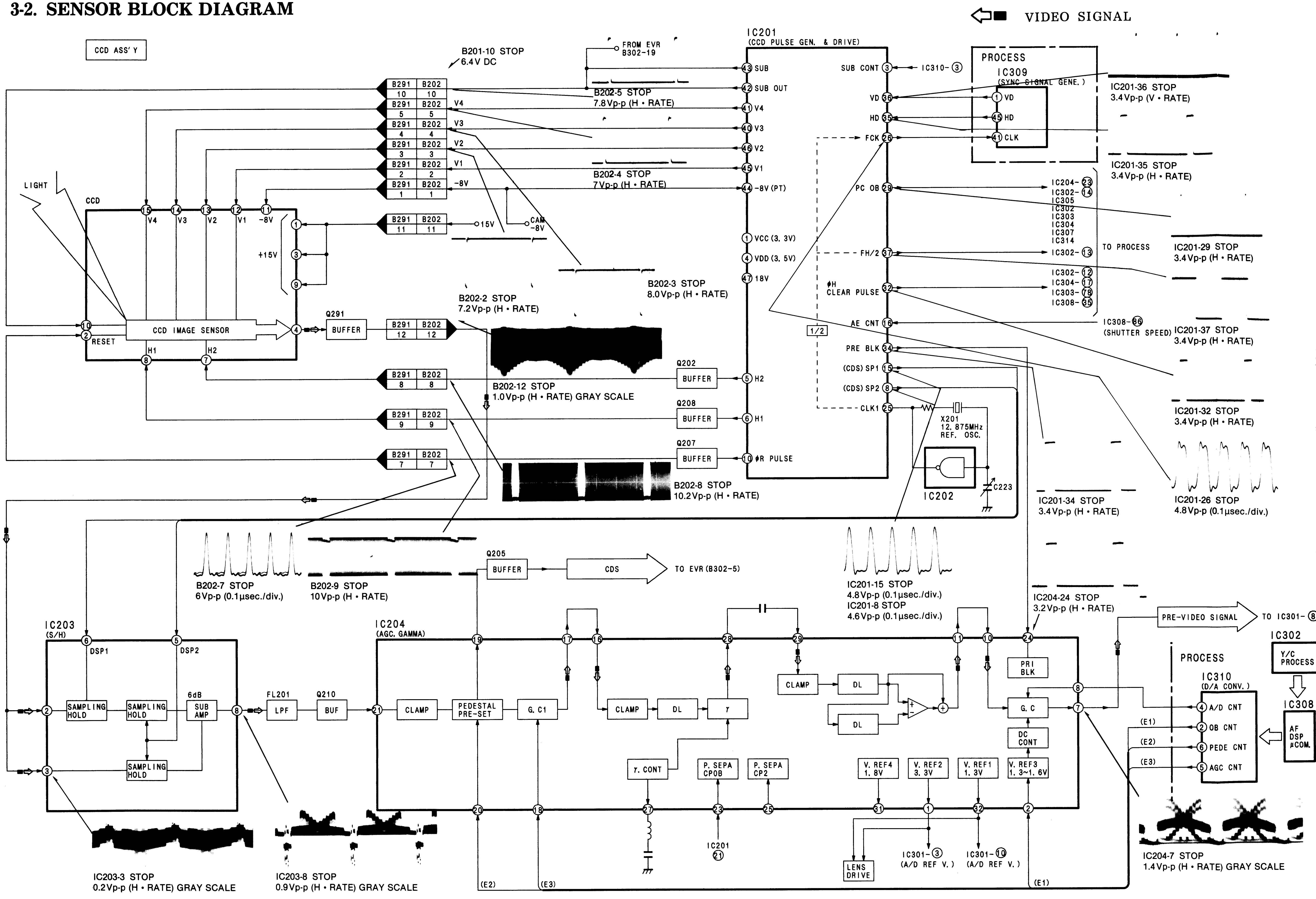
3-1. ABBREVIATIONS

INITIAL/LOGO		ABBREVIATION
	3R3V	3. 3V
A	A. TR	AUTO TRACKING
	ABSF	FOCUS ENCORDER INPUT
	ADCLK	A/D CLOCK
	ADCNT	A/D CONTROL
	ADREC	AUDIO DELAIED REC
	ADUB	AUDIO DUBBING
	AE	AUTO EXPOSURE
	AECNT	AUTO EXPOSURE CONTROL
	AEIRQ	AUTO EXPOSURE INTERRUPT REQUEST
	AFADE	AUDIO FADE
	AGCCNT	AUTO GAIN CONTROL
	ALCCNT	ALC CONTROL
	ALCMAIN	ALC DRIVE
	AMUT	AUDIO MUTE
	AORP	AUDIO OVER LAP PULSE
	APS	AUTO POWER SAVER
	ARTV	ARTIFICAL VERTICAL SYNC
	AWTB	AUTO WHITE TRACKING B-Y SIDE
	AWTR	AUTO WHITE TRACKING R-Y SIDE
B	B-Y KB	B-Y CARRIER BALANCE
	BACK	BACK UP
	BEND	BLOCK AVERAGE DATA INTERRUPT
	BF	BURST FLUG PULSE
	BFA	BURST FLUG FOR ENCODER
	BL	BACK LIGHT
	BLDIN	BACK LIGHT DRIVE PULSE INPUT
	BLDOUT	BACK LIGHT DRIVE PULSE OUTPUT
	BLK	BLANKING PULSE
	BM	BALANCED MODULATOR
	BUF	BUFFER
C	CAPVM	CAPSTAN MOTOR CURRENT
	CCW	COUNTER CLOCK WISE
	CDS	CCD (SENSOR CIRCUIT) OUTPUT
	CFM 1～4	CHROMINANCE FIELD MEMORY
	CGC	CHROMINANCE GAIN CONTROL
	CH1	Channel 1 (Odd field)
	CHR MIX	CHARACTER MIX
	CK or CLK	CLOCK
	CLK2	CLOCK 2 (824XFH=12. 875MHz)
	CMEM	CHROMINANCE MEMORY SIGNAL
	CMO	CHROMA MEMORY OUTPUT
	CO0～7	CHROMA OUTPUT (DIGITAL:8BIT)
	CP	CLAMP PULSE
	CPOB	OB CLAMP PULSE
	CS	CHIP SELECT
	CSEL1～2	CLOCK PHASE SELECT
	CW	CLOCK WISE
	CYLVM	CYLINDER MOTOR CURRENT
D	D MODE0～2	DIGITAL MODE SWITCH SIGNAL
	D0 ～ D8	VIDEO OUT (DIGITAL 9BIT)
	DCLR	DIGITAL CLEAR
	DICLK	DIGITAL CLOCK
	DISCS	DIS CHIPSELECT
	DL	DELAY LINE
	DRK	DARK
	DS 1～2	DOUBLE SAMPLING PULSE
	DSP	DIGITAL SIGNAL PROCESS
	DZ	DIGITAL ZOOM
	DZ/OZ	DIGITAL ZOOM/OPTICAL ZOOM
E	ECM	ELECTRIC CONDENCER MIC
	ENV DET	ENVELOPE LEVEL DETECT
	EZOOM	ELECTRIC ZOOM
F	FAR	FAR (FOCUS)
	FCK	CLOCK (SENSOR:12. 875MHz)
	FENC	FOCUS ENCODER
	FH2B	FH/2 (15. 625/2=7. 8125kHz)
	FM MUTE	FM AUDIO MUTE
	FM0～7	FIELD MEMORY INPUT 8BIT
	FMD REC	FM AUDIO RELAYED REC
	FMOEM	FIELD MEMORY ENABLE
	FNO	F VALUE
G	GCNT	GAIN CONTROL
H	H1 ～ 2	H. CCD DRIVE PULSE
	HBRSET	HIGH BRIGHT SET
	HCLR	HIGH CLEAR
	HD	HORIZONTAL DRIVE PULSE
	HEX	HEXADECIMAL
	HLT	HIGHT BRIGHT SIGNAL
I	INTER	INTERVAL RECORDING
	IOU	R-Y ANALOGUE SIGNAL OUTPUT
	IOV	B-Y ANALOGUE SIGNAL OUTPUT
	IRQ	INTERRUPT REQUEST
	IRQ	INTERRUPT REQUEST
K	KANDO	DIGITAL GAIN-UP
L	LD	LOAD PULSE
	LEDCNT	LED CONTROL
	LI BATT	LITHIUM BATTERY
	LSB	LEAST SIGINIFICANT BIT
M	MD	MODULATOR
	MFF	MANUAL FOCUS FAR
	MFN	MANUAL FOCUS NEAR
	MSB	MOST SIGNIFICANT BIT
N	N/F	NEAR/FAR (FOCUS)
	N/P	NTSC/PAL
	NC	NO CONNECTION
	NC1～3	NPN TRANSISTOR C-SIDE
	NDE	NON LINER DE-EMPHASIS
	NEAR	NEAR (FOCUS)
	NLE	NON LINER EMPHASIS
	NRD	NON REC DATA
	NRDBLK	NON REC DATA BLANKING
	NRE	READ ENABLE INPUT(LOW ACTIVE)
	NWE	WRITE ENABLE INPUT(LOW ACTIVE)
O	OBCNT	OPTICAL BLACK CONTROL
	OE	OUTPUT ENABLE
	OP	OPERATIONAL AMP OUTPUT
	OSD	ON SCREEN DISPLAY

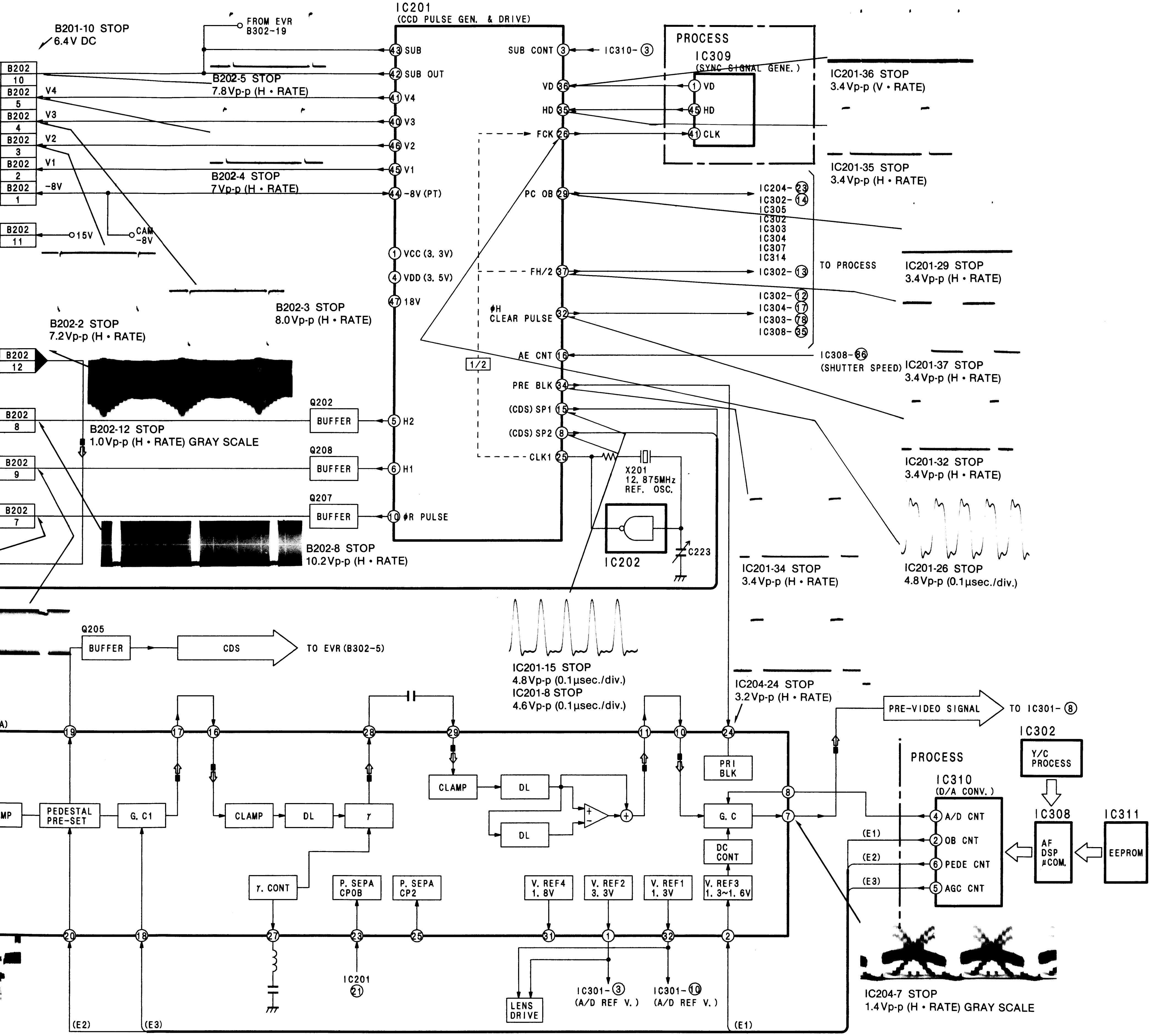
INITIAL/LOGO		ABBREVIATION
P	PB1~3	PNP TRANSISTOR B-SIDE
	PBLK	PRE-BLANKING
	PCBM(B-Y)	B-Y CARRIER BALANCE
	PCBM(R-Y)	R-Y CARRIER BALANCE
	PEDECNT	PEDESTAL CONTROL
	POR	POWER ON RESET
	PREBLK	PRE-BLANKING
	PT	PROTECT FOR ΦV VOLTAGE (-8V)
	PWM	PULSE WIDTH MODULATOR
R	R/B	READY/BUSY
	R-Y KB	R-Y CARRIER BALANCE
	RAD	READ ADDRESS DATA
	RAE	READ ADDRESS ENABLE
	RE	READ ENABLE
	RE	ROTARY ERASE HEAD
	RERASE	ROTARY ERASE HEAD
	RST	RESET
	RSTR	RESET READ
	RSTW	RESET WRITE
S	S/S	START/STOP
	SBO	SERIAL OUTPUT
	SBD	SERIAL DATA
	SCLK	SERIAL CLOCK
	SDET	S-VHS DETECT
	SH/IRIS	SHUTTER/IRIS SW
	STAB	S-VHS TAB SWITCH
	SUB CNT	SUB CONTROL (SHUTTER SPEED)
T	TL	TORQUE LIMIT
	TRFIX	TRACKING FIX
	TRP	TRAP
U	U/V SELCT	R-Y/B-Y SELECT SIGNAL
	UVSEL	R-Y/B-Y SELECT SIGNAL
V	V1~4	V.CCD DRIVE PULSE
	VCO	VOLTAGE CONTROL OSCILLTOR
	VCTRL or VCTR	ΦVOLTAGE CHARGE CONTROL
	VD	VERTICAL DRIVE PULSE
	VDREC	VIDEO DELAYED REC
	VIN	VIDEO IN (ANALOGUE)
	VITC	VERTICAL INTERVAL TIME CODE
	VMD1~3	VELOCITY MODE DATA (SHUTTER)
	VORP	VIDEO OVERLAP
	VRB	VOLTAGE REFERENCE BOTTOM (1.3V)
	VREF1R3V	REFERENCE VOLTAGE 1.3v
	VREF3R3V	REFERENCE VOLTAGE 3.3v
	VREFH	REFERENCE VOLTAGE HIGH SIDE
	VREFL	REFERENCE VOLTAGE LOW SIDE
	VRI	REFERENCE VOLTAGE INPUT
	VRO	REFERENCE VOLTAGE OUTPUT
	VRO	REFEREMCE VOLTAGE OUTPUT
	VRT	VOLTAGE REFERENCE TOP (3.3V)
	VSS	VERTICAL SYNC SIGNAL
W	WAD or WAE	WRITE ADDRESS ENABLE
	WE	WRITE ENABLE
	WHD	WIDE HOLIZONTAL DRIVE PULSE

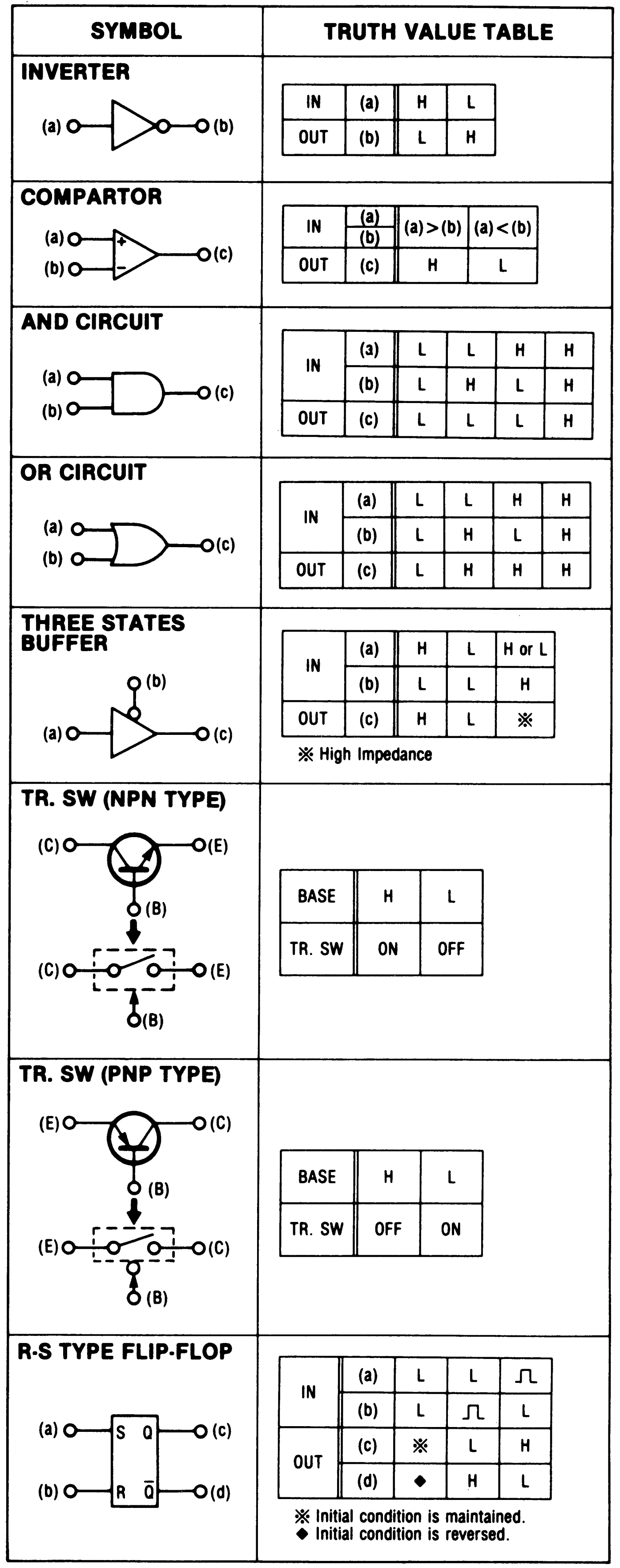
INITIAL/LOGO		ABBREVIATION
Y	Y 0~7	8BIT LUMINANCE DIGITAL SIGNAL
	YNC	NOISE CANCELER (LUMINANCE)
	YNR	NOISE REDUCTION (LUMINANCE)
Z	Z ENC	ZOOM ENCODER
	Z-MIC	ZOOM MIC
	ZENC1~4	ZOOM ENCODER
	ZMT	ZOOM MOTOR TELE SIDE
	ZMT(+)/(-)	ZOOM MOTOR (+)/(-)
	ZMW	ZOOM MOTOR WIDE SIDE
Φ	ϕH1~2	H.CCD DRIVE PULSE
	ϕR	RESET PULSE
	ϕV1~4	V.CCD DRIVE PULSE

3-2. SENSOR BLOCK DIAGRAM


VIDEO SIGNAL
CCD ASS'Y
B201-10 STOP
6.4V DC
FROM EVR
B302-19
IC201
(CCD PULSE GEN. & DRIVE)
PROCESS
IC309
(SYNC SIGNAL GENE.)
IC201-36 STOP
3.4Vp-p (V • RATE)
B291 B202 10 10
B291 B202 5 5
B291 B202 4 4
B291 B202 3 3
B291 B202 2 2
B291 B202 1 1
V4
V3
V2
V1
-8V
B202-5 STOP
7.8Vp-p (H • RATE)
43 SUB
42 SUB OUT
41 V4
40 V3
46 V2
45 V1
44 -8V (PT)
SUB CONT 3
IC310-3
VD 36
HD 35
FCK 26
1 VD
45 HD
41 CLK
IC201-35 STOP
3.4Vp-p (H • RATE)
B202-4 STOP
7Vp-p (H • RATE)
LIGHT
CCD
15 14 13 12 11
V4 V3 V2 V1 -8V
B291 B202 11 11
15V
CAM -8V
+15V
1 VCC (3. 3V)
4 VDD (3. 5V)
47 18V
PC OB 29
IC204-23
IC302-14
IC305
IC302
IC303
IC304
IC307
IC314
TO PROCESS
IC201-29 STOP
3.4Vp-p (H • RATE)
FH/2 37
IC302-13
IC302-12
IC304-17
IC303-78
IC308-35
φH CLEAR PULSE 32
B202-3 STOP
8.0Vp-p (H • RATE)
B202-2 STOP
7.2Vp-p (H • RATE)
Q291
BUFFER
B291 B202 12 12
10
2 RESET
CCD IMAGE SENSOR
4
H1 H2
8 7
1/2
AE CNT 16
IC308-86
(SHUTTER SPEED)
IC201-37 STOP
3.4Vp-p (H • RATE)
PRE BLK 34
(CDS) SP1 15
(CDS) SP2 8
CLK1 25
X201
12.875MHz
REF. OSC.
B291 B202 8 8
B202-12 STOP
1.0Vp-p (H • RATE) GRAY SCALE
Q202
BUFFER
5 H2
Q208
BUFFER
6 H1
B291 B202 9 9
Q207
BUFFER
10 φR PULSE
B291 B202 7 7
B202-8 STOP
10.2Vp-p (H • RATE)
IC202
C223
IC201-32 STOP
3.4Vp-p (H • RATE)
IC201-34 STOP
3.4Vp-p (H • RATE)
IC201-26 STOP
4.8Vp-p (0.1μsec./div.)
Q205
BUFFER
CDS
TO EVR (B302-5)
B202-7 STOP
6Vp-p (0.1μsec./div.)
B202-9 STOP
10Vp-p (H • RATE)
IC201-15 STOP
4.8Vp-p (0.1μsec./div.)
IC201-8 STOP
4.6Vp-p (0.1μsec./div.)
IC204-24 STOP
3.2Vp-p (H • RATE)
PRE-VIDEO SIGNAL
TO IC301-8
IC302
Y/C PROCESS
IC203
(S/H)
6 DSP1
5 DSP2
SAMPLING HOLD
SAMPLING HOLD
6dB
SUB AMP
SAMPLING HOLD
2
3
8
FL201
LPF
Q210
BUF
IC204
(AGC, GAMMA)
21
CLAMP
PEDESTAL PRE-SET
G. C1
19 17 16 28 29 11 10 24
CLAMP
DL
γ
CLAMP
DL
DL
PRI BLK
G. C
DC CONT
8
7
γ. CONT
P. SEPA CPOB
P. SEPA CP2
V. REF4 1. 8V
V. REF2 3. 3V
V. REF1 1. 3V
V. REF3 1. 3~1. 6V
20 18 27 23 25 31 1 32 2
IC201 21
LENS DRIVE
IC301-3 (A/D REF V.)
IC301-10 (A/D REF V.)
(E2)
(E3)
(E1)
PROCESS
IC310
(D/A CONV.)
4 A/D CNT
2 OB CNT
6 PEDE CNT
5 AGC CNT
IC308
AF DSP μCOM.
IC203-3 STOP
0.2Vp-p (H • RATE) GRAY SCALE
IC203-8 STOP
0.9Vp-p (H • RATE) GRAY SCALE
IC204-7 STOP
1.4Vp-p (H • RATE) GRAY SCALE

⇦■ VIDEO SIGNAL


IC201
(CCD PULSE GEN. & DRIVE)
B201-10 STOP
6.4V DC
FROM EVR
B302-19
B202
10
B202
5
B202
4
B202
3
B202
2
B202
1
B202
11
V4
V3
V2
V1
-8V
15V
CAM
-8V
B202-5 STOP
7.8Vp-p (H • RATE)
B202-4 STOP
7Vp-p (H • RATE)
B202-3 STOP
8.0Vp-p (H • RATE)
B202-2 STOP
7.2Vp-p (H • RATE)
43 SUB
42 SUB OUT
41 V4
40 V3
46 V2
45 V1
44 -8V (PT)
1 VCC (3. 3V)
4 VDD (3. 5V)
47 18V
SUB CONT 3
IC310-3
VD 36
HD 35
FCK 26
PC OB 29
FH/2 37
ϕH CLEAR PULSE 32
AE CNT 16
PRE BLK 34
(CDS) SP1 15
(CDS) SP2 8
CLK1 25
1/2
PROCESS
IC309
(SYNC SIGNAL GENE.)
1 VD
45 HD
41 CLK
IC201-36 STOP
3.4Vp-p (V • RATE)
IC201-35 STOP
3.4Vp-p (H • RATE)
IC204-23
IC302-14
IC305
IC302
IC303
IC304
IC307
IC314
IC302-13
IC302-12
IC304-17
IC303-78
IC308-35
TO PROCESS
IC201-29 STOP
3.4Vp-p (H • RATE)
IC308-86
(SHUTTER SPEED)
IC201-37 STOP
3.4Vp-p (H • RATE)
IC201-32 STOP
3.4Vp-p (H • RATE)
IC201-26 STOP
4.8Vp-p (0.1μsec./div.)
IC201-34 STOP
3.4Vp-p (H • RATE)
X201
12. 875MHz
REF. OSC.
IC202
C223
B202
12
B202
8
B202
9
B202
7
Q202
BUFFER
Q208
BUFFER
Q207
BUFFER
5 H2
6 H1
10 ϕR PULSE
B202-12 STOP
1.0Vp-p (H • RATE) GRAY SCALE
B202-8 STOP
10.2Vp-p (H • RATE)
Q205
BUFFER
CDS
TO EVR (B302-5)
IC201-15 STOP
4.8Vp-p (0.1μsec./div.)
IC201-8 STOP
4.6Vp-p (0.1μsec./div.)
IC204-24 STOP
3.2Vp-p (H • RATE)
PRE-VIDEO SIGNAL
TO IC301-8
IC302
Y/C PROCESS
PROCESS
IC310
(D/A CONV.)
4 A/D CNT
2 OB CNT
6 PEDE CNT
5 AGC CNT
IC308
AF DSP μCOM.
IC311
EEPROM
(E1)
(E2)
(E3)
(A)
MP
PEDESTAL PRE-SET
G. C1
CLAMP
DL
γ
CLAMP
DL
DL
PRI BLK
G. C
DC CONT
γ. CONT
P. SEPA CPOB
P. SEPA CP2
V. REF4 1. 8V
V. REF2 3. 3V
V. REF1 1. 3V
V. REF3 1. 3~1. 6V
19
17
16
28
29
11
10
24
8
7
20
18
27
23
25
31
1
32
2
IC201
21
LENS DRIVE
IC301-3
(A/D REF V.)
IC301-10
(A/D REF V.)
IC204-7 STOP
1.4Vp-p (H • RATE) GRAY SCALE


SYMBOL
TRUTH VALUE TABLE
(a)
(b)
(c)
(d)
(C)
(E)
(B)
S
Q
R
Q̄

INVERTER

IN	(a)	H	L
OUT	(b)	L	H

COMPARTOR

IN	(a)/(b)	(a)>(b)	(a)<(b)
OUT	(c)	H	L

AND CIRCUIT

IN	(a)	L	L	H	H
	(b)	L	H	L	H
OUT	(c)	L	L	L	H

OR CIRCUIT

IN	(a)	L	L	H	H
	(b)	L	H	L	H
OUT	(c)	L	H	H	H

THREE STATES BUFFER

IN	(a)	H	L	H or L
	(b)	L	L	H
OUT	(c)	H	L	※

※ High Impedance

TR. SW (NPN TYPE)

BASE	H	L
TR. SW	ON	OFF

TR. SW (PNP TYPE)

BASE	H	L
TR. SW	OFF	ON

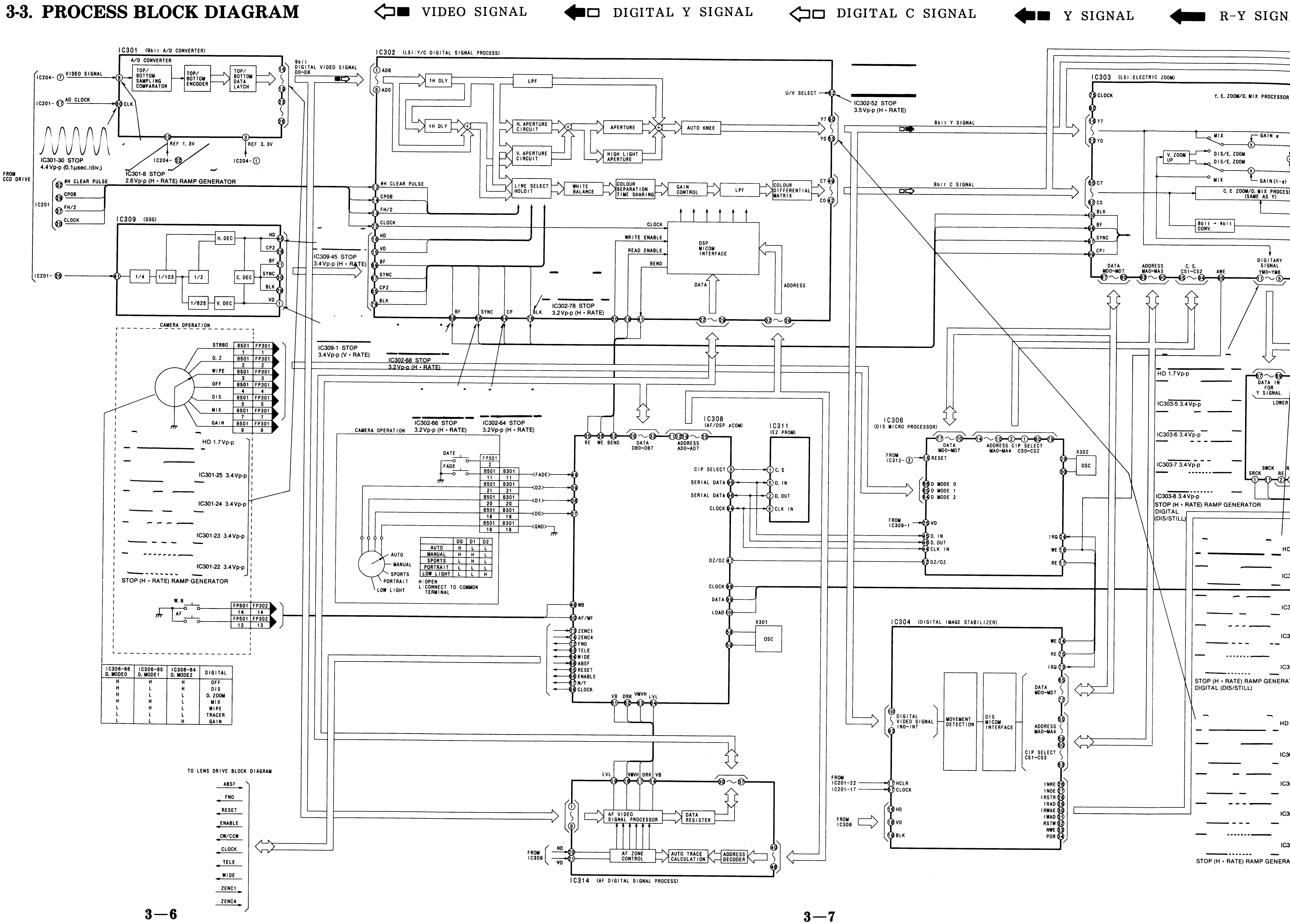
R-S TYPE FLIP-FLOP

IN	(a)	L	L	⎍
	(b)	L	⎍	L
OUT	(c)	※	L	H
	(d)	◆	H	L

※ Initial condition is maintained.
◆ Initial condition is reversed.

Next Page:
PROCESS Section

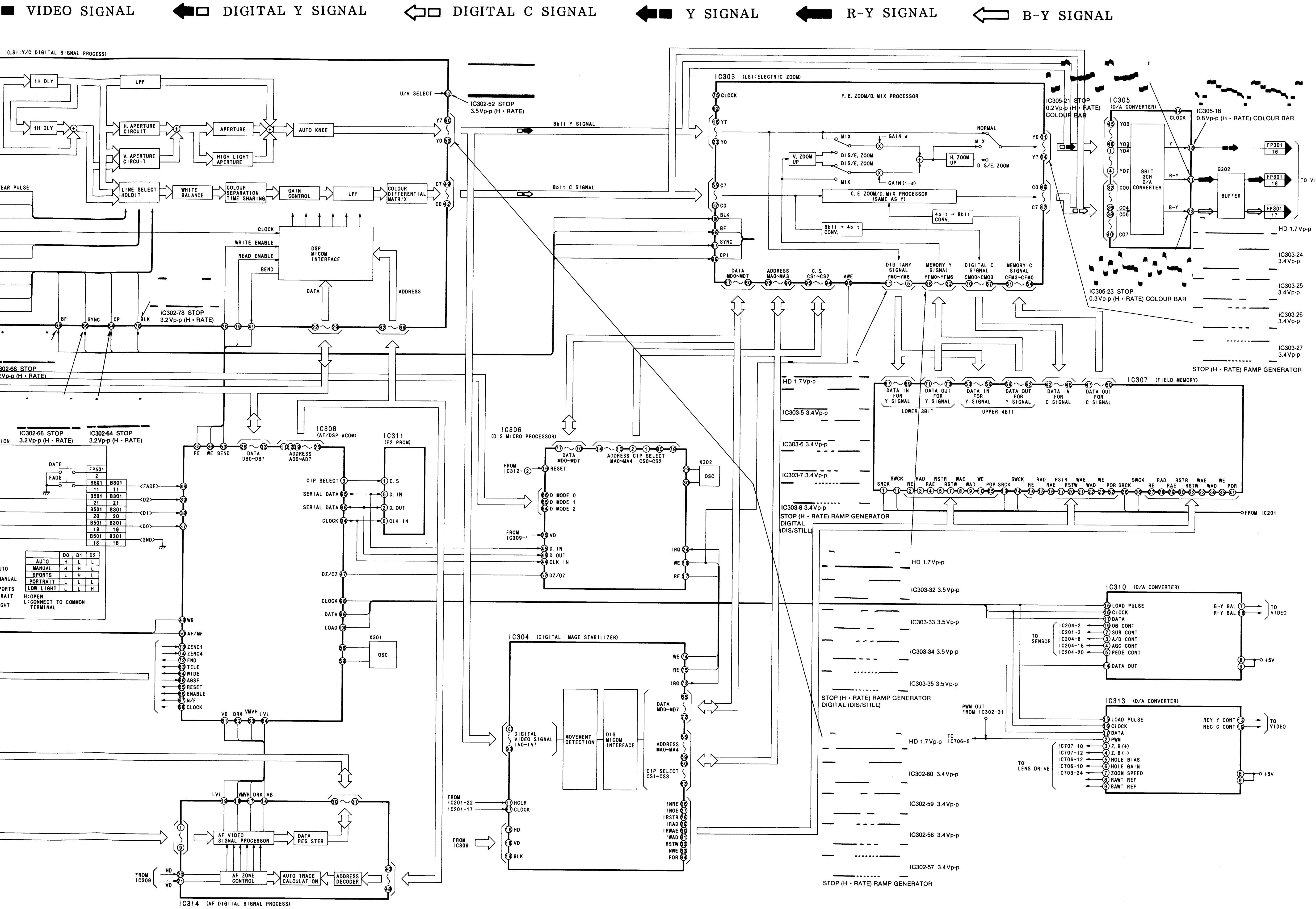
3-3. PROCESS BLOCK DIAGRAM


VIDEO SIGNAL
DIGITAL Y SIGNAL
DIGITAL C SIGNAL
Y SIGNAL
R-Y SIGN
IC301 (9bit A/D CONVERTER)
A/D CONVERTER
TOP/BOTTOM SAMPLING COMPARATOR
TOP/BOTTOM ENCODER
TOP/BOTTOM DATA LATCH
IC204-⑦ VIDEO SIGNAL
IC201-⑰ AD CLOCK
CLK
REF 1.3V
REF 3.3V
IC204-㉜
IC204-①
IC301-30 STOP
4.4Vp-p (0.1μsec./div.)
IC301-8 STOP
2.6Vp-p (H・RATE) RAMP GENERATOR
FROM CCD DRIVE
IC201
φH CLEAR PULSE
CPOB
FH/2
CLOCK
IC309 (SSG)
H. DEC
C. DEC
V. DEC
1/4
1/103
1/2
1/625
HD
CP2
BF
SYNC
BLK
VD
IC201-㉖
9bit DIGITAL VIDEO SIGNAL D0~D8
IC309-45 STOP
3.4Vp-p (H・RATE)
IC309-1 STOP
3.4Vp-p (V・RATE)
IC302-68 STOP
3.2Vp-p (H・RATE)
IC302 (LSI:Y/C DIGITAL SIGNAL PROCESS)
AD8
AD0
1H DLY
LPF
H. APERTURE CIRCUIT
V. APERTURE CIRCUIT
APERTURE
HIGH LIGHT APERTURE
AUTO KNEE
LINE SELECT HOLDIT
WHITE BALANCE
COLOUR SEPARATION TIME SHARING
GAIN CONTROL
COLOUR DIFFERENTIAL MATRIX
U/V SELECT
IC302-52 STOP
3.5Vp-p (H・RATE)
Y7
Y0
C7
C0
DSP MICOM INTERFACE
CLOCK
WRITE ENABLE
READ ENABLE
BEND
DATA
ADDRESS
IC302-78 STOP
3.2Vp-p (H・RATE)
8bit Y SIGNAL
8bit C SIGNAL
IC303 (LSI:ELECTRIC ZOOM)
Y. E. ZOOM/D. MIX PROCESSOR
MIX
GAIN α
V. ZOOM UP
DIS/E. ZOOM
GAIN(1-α)
C. E ZOOM/D. MIX PROCESS (SAME AS Y)
8bit - 4bit CONV.
DATA MD0~MD7
ADDRESS MA0~MA3
C. S. CS1~CS2
AWE
DIGITARY SIGNAL YM0~YM6
DATA IN FOR Y SIGNAL
LOWER
SWCK
SRCK
HD 1.7Vp-p
IC303-5 3.4Vp-p
IC303-6 3.4Vp-p
IC303-7 3.4Vp-p
IC303-8 3.4Vp-p
STOP (H・RATE) RAMP GENERATOR
DIGITAL (DIS/STILL)
STOP (H・RATE) RAMP GENERAT
DIGITAL (DIS/STILL)
STOP (H・RATE) RAMP GENERA
CAMERA OPERATION
STRBO
D. Z
WIPE
OFF
DIS
MIX
GAIN
B501
FP301
HD 1.7Vp-p
IC301-25 3.4Vp-p
IC301-24 3.4Vp-p
IC301-23 3.4Vp-p
IC301-22 3.4Vp-p
STOP (H・RATE) RAMP GENERATOR
W. B
AF
FP501
FP302
IC302-66 STOP
3.2Vp-p (H・RATE)
IC302-64 STOP
3.2Vp-p (H・RATE)
DATE
FADE
B301
<FADE>
<D2>
<D1>
<D0>
<GND>
AUTO
MANUAL
SPORTS
PORTRAIT
LOW LIGHT
IC308 (AF/DSP μCOM)
RE
WE
BEND
DATA DB0~DB7
ADDRESS AD0~AD7
CIP SELECT
SERIAL DATA
CLOCK
DZ/OZ
DATA
LOAD
WB
AF/MF
ZENC1
ZENC4
FNO
TELE
WIDE
ABSF
RESET
ENABLE
N/F
VB
DRK
VMVH
LVL
X301
OSC
IC311 (E2 PROM)
C. S
D. IN
D. OUT
CLK IN
IC306 (DIS MICRO PROCESSOR)
ADDRESS CIP SELECT MA0~MA4 CS0~CS2
FROM IC312-②
D MODE 0
D MODE 1
D MODE 2
FROM IC309-1
IRQ
X302
IC304 (DIGITAL IMAGE STABILIZER)
DIGITAL VIDEO SIGNAL IN0~IN7
MOVEMENT DETECTION
DIS MICOM INTERFACE
CIP SELECT CS1~CS3
FROM IC201-22
IC201-17
HCLR
FROM IC309
INRE
INOE
IRSTR
IRAD
IRWAE
IWAD
RSTW
NWE
POR
TO LENS DRIVE BLOCK DIAGRAM
CW/CCW
ZENC1
ZENC4
IC314 (AF DIGITAL SIGNAL PROCESS)
AF VIDEO SIGNAL PROCESSOR
DATA RESISTER
AF ZONE CONTROL
AUTO TRACE CALCULATION
ADDRESS DECODER
FROM IC309
HD
VD

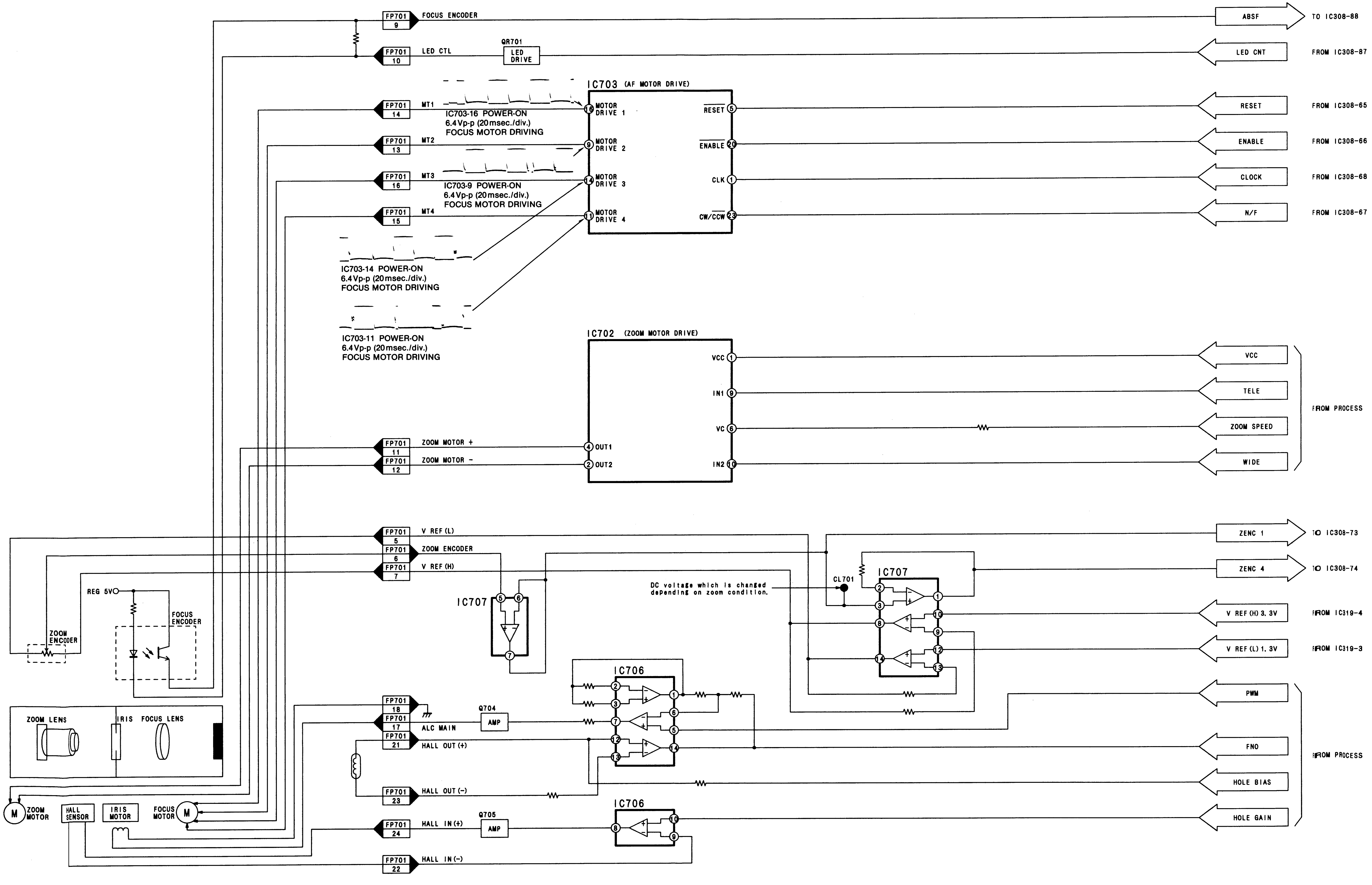
	D0	D1	D2
AUTO	H	L	L
MANUAL	H	H	L
SPORTS	L	H	L
PORTRAIT	L	L	L
LOW LIGHT	L	L	H

H:OPEN
L:CONNECT TO COMMON TERMINAL

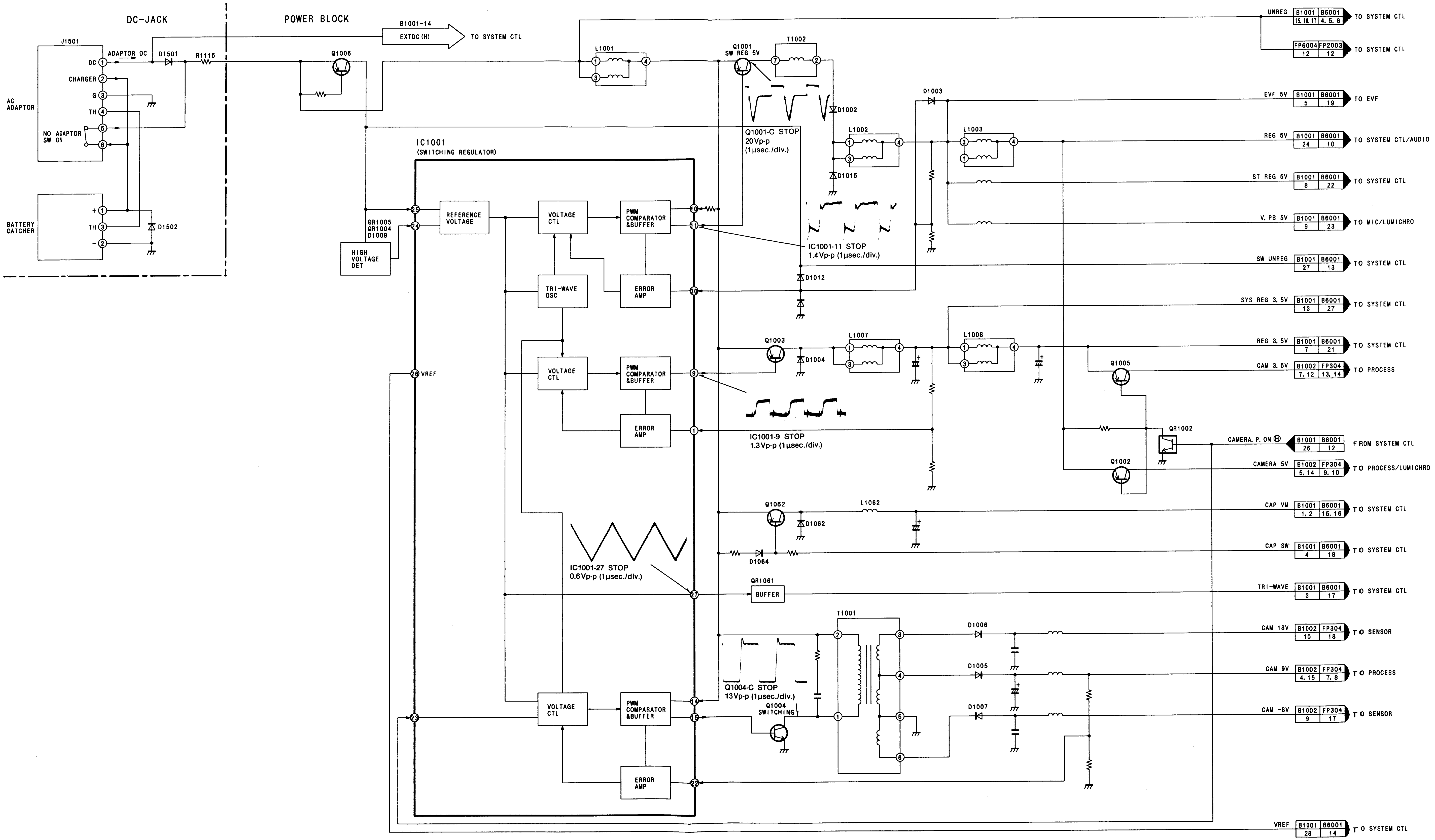
IC306-66 D. MODE0	IC306-65 D. MODE1	IC306-64 D. MODE2	DIGITAL
H	H	H	OFF
H	L	H	DIS
H	L	L	D. ZOOM
H	H	L	MIX
L	H	L	WIPE
L	L	L	TRACER
L	L	H	GAIN


VIDEO SIGNAL
DIGITAL Y SIGNAL
DIGITAL C SIGNAL
Y SIGNAL
R-Y SIGNAL
B-Y SIGNAL
(LSI:Y/C DIGITAL SIGNAL PROCESS)
1H DLY
LPF
H. APERTURE CIRCUIT
APERTURE
AUTO KNEE
V. APERTURE CIRCUIT
HIGH LIGHT APERTURE
LINE SELECT HOLDIT
WHITE BALANCE
COLOUR SEPARATION TIME SHARING
GAIN CONTROL
COLOUR DIFFERENTIAL MATRIX
U/V SELECT
IC302-52 STOP 3.5Vp-p (H • RATE)
8bit Y SIGNAL
8bit C SIGNAL
CLOCK
WRITE ENABLE
READ ENABLE
BEND
DSP MICOM INTERFACE
DATA
ADDRESS
BF
SYNC
CP
BLK
IC302-78 STOP 3.2Vp-p (H • RATE)
302-68 STOP
Vp-p (H • RATE)
IC302-66 STOP 3.2Vp-p (H • RATE)
IC302-64 STOP 3.2Vp-p (H • RATE)
IC308 (AF/DSP μCOM)
RE WE BEND
DATA DB0~DB7
ADDRESS AD0~AD7
IC311 (E2 PROM)
CIP SELECT
SERIAL DATA
CLOCK
C.S
D. IN
D. OUT
CLK IN
DATE
FADE
FP501
B501
B301
AUTO
MANUAL
SPORTS
PORTRAIT
LOW LIGHT
D0 D1 D2
H:OPEN
L:CONNECT TO COMMON TERMINAL
DZ/OZ
DATA
LOAD
X301
OSC
WB
AF/MF
ZENC1
ZENC4
FNO
TELE
WIDE
ABSF
RESET
ENABLE
N/F
CLOCK
VB DRK VMVH LVL
IC314 (AF DIGITAL SIGNAL PROCESS)
AF VIDEO SIGNAL PROCESSOR
DATA RESISTER
AF ZONE CONTROL
AUTO TRACE CALCULATION
ADDRESS DECODER
FROM IC309
HD
VD
IC306 (DIS MICRO PROCESSOR)
DATA MD0~MD7
ADDRESS CIP SELECT MA0~MA4 CS0~CS2
FROM IC312-2
RESET
D MODE 0
D MODE 1
D MODE 2
FROM IC309-1
VD
D. IN
D. OUT
CLK IN
DZ/OZ
X302
OSC
IRQ
WE
RE
IC304 (DIGITAL IMAGE STABILIZER)
DIGITAL VIDEO SIGNAL IN0~IN7
MOVEMENT DETECTION
DIS MICOM INTERFACE
DATA MD0~MD7
ADDRESS MA0~MA4
CIP SELECT CS1~CS3
FROM IC201-22
IC201-17
HCLR
CLOCK
FROM IC309
HD
VD
BLK
INRE
INOE
IRSTR
IRAD
IRWAE
IWAD
RSTW
NWE
POR
IC303 (LSI:ELECTRIC ZOOM)
Y. E. ZOOM/D. MIX PROCESSOR
Y7
Y0
C7
C0
BLK
BF
SYNC
CPI
NORMAL
MIX
GAIN α
DIS/E. ZOOM
V. ZOOM UP
H. ZOOM UP
GAIN (1-α)
C. E ZOOM/D. MIX PROCESSOR (SAME AS Y)
4bit → 8bit CONV.
8bit → 4bit CONV.
DATA MD0~MD7
ADDRESS MA0~MA3
C. S. CS1~CS2
AWE
DIGITARY SIGNAL YM0~YM6
MEMORY Y SIGNAL YFM0~YFM6
DIGITAL C SIGNAL CM00~CM03
MEMORY C SIGNAL CFM3~CFM0
IC305-21 STOP 0.2Vp-p (H • RATE) COLOUR BAR
IC305 (D/A CONVERTER)
8BIT 3CH D/A CONVERTER
IC305-18 0.8Vp-p (H • RATE) COLOUR BAR
Q302
BUFFER
FP301 16
FP301 18
FP301 17
TO VIDEO
HD 1.7Vp-p
IC303-24 3.4Vp-p
IC303-25 3.4Vp-p
IC303-26 3.4Vp-p
IC303-27 3.4Vp-p
IC305-23 STOP 0.3Vp-p (H • RATE) COLOUR BAR
STOP (H • RATE) RAMP GENERATOR
IC307 (FIELD MEMORY)
DATA IN FOR Y SIGNAL
DATA OUT FOR Y SIGNAL
DATA IN FOR C SIGNAL
DATA OUT FOR C SIGNAL
LOWER 3BIT
UPPER 4BIT
SRCK SWCK RAD RSTR WAE WE POR
FROM IC201
HD 1.7Vp-p
IC303-5 3.4Vp-p
IC303-6 3.4Vp-p
IC303-7 3.4Vp-p
IC303-8 3.4Vp-p
STOP (H • RATE) RAMP GENERATOR DIGITAL (DIS/STILL)
IC303-32 3.5Vp-p
IC303-33 3.5Vp-p
IC303-34 3.5Vp-p
IC303-35 3.5Vp-p
STOP (H • RATE) RAMP GENERATOR DIGITAL (DIS/STILL)
HD 1.7Vp-p
TO IC706-5
IC302-60 3.4Vp-p
IC302-59 3.4Vp-p
IC302-58 3.4Vp-p
IC302-57 3.4Vp-p
STOP (H • RATE) RAMP GENERATOR
IC310 (D/A CONVERTER)
LOAD PULSE
CLOCK
DATA
OB CONT
SUB CONT
A/D CONT
AGC CONT
PEDE CONT
DATA OUT
TO SENSOR
IC204-2
IC201-3
IC204-8
IC204-18
IC204-20
B-Y BAL
R-Y BAL
TO VIDEO
+5V
PWM OUT FROM IC302-31
IC313 (D/A CONVERTER)
LOAD PULSE
CLOCK
DATA
PWM
Z. B (+)
Z. B (-)
HOLE BIAS
HOLE GAIN
ZOOM SPEED
RAWT REF
BAWT REF
TO LENS DRIVE
IC707-10
IC707-12
IC706-12
IC706-10
IC703-24
REY Y CONT
REC C CONT
TO VIDEO
+5V

3-4. LENS DRIVE BLOCK DIAGRAM


FP701 9 FOCUS ENCODER
ABSF
TO IC308-88
FP701 10 LED CTL
QR701 LED DRIVE
LED CNT
FROM IC308-87
IC703 (AF MOTOR DRIVE)
FP701 14 MT1
FP701 13 MT2
FP701 16 MT3
FP701 15 MT4
IC703-16 POWER-ON
6.4Vp-p (20msec./div.)
FOCUS MOTOR DRIVING
IC703-9 POWER-ON
6.4Vp-p (20msec./div.)
FOCUS MOTOR DRIVING
IC703-14 POWER-ON
6.4Vp-p (20msec./div.)
FOCUS MOTOR DRIVING
IC703-11 POWER-ON
6.4Vp-p (20msec./div.)
FOCUS MOTOR DRIVING
16 MOTOR DRIVE 1
9 MOTOR DRIVE 2
14 MOTOR DRIVE 3
11 MOTOR DRIVE 4
RESET 5
ENABLE 20
CLK 1
CW/CCW 23
RESET
FROM IC308-65
ENABLE
FROM IC308-66
CLOCK
FROM IC308-68
N/F
FROM IC308-67
IC702 (ZOOM MOTOR DRIVE)
VCC 1
IN1 9
VC 6
IN2 10
4 OUT1
2 OUT2
FP701 11 ZOOM MOTOR +
FP701 12 ZOOM MOTOR −
VCC
TELE
ZOOM SPEED
WIDE
FROM PROCESS
FP701 5 V REF (L)
FP701 6 ZOOM ENCODER
FP701 7 V REF (H)
ZENC 1
TO IC308-73
ZENC 4
TO IC308-74
IC707
CL701
DC voltage which is changed depending on zoom condition.
V REF (H) 3.3V
FROM IC319-4
V REF (L) 1.3V
FROM IC319-3
REG 5V
FOCUS ENCODER
ZOOM ENCODER
IC706
FP701 18
FP701 17 ALC MAIN
FP701 21 HALL OUT (+)
FP701 23 HALL OUT (−)
FP701 24 HALL IN (+)
FP701 22 HALL IN (−)
Q704 AMP
Q705 AMP
PWM
FNO
HOLE BIAS
HOLE GAIN
FROM PROCESS
ZOOM LENS
IRIS
FOCUS LENS
M ZOOM MOTOR
HALL SENSOR
IRIS MOTOR
FOCUS MOTOR M

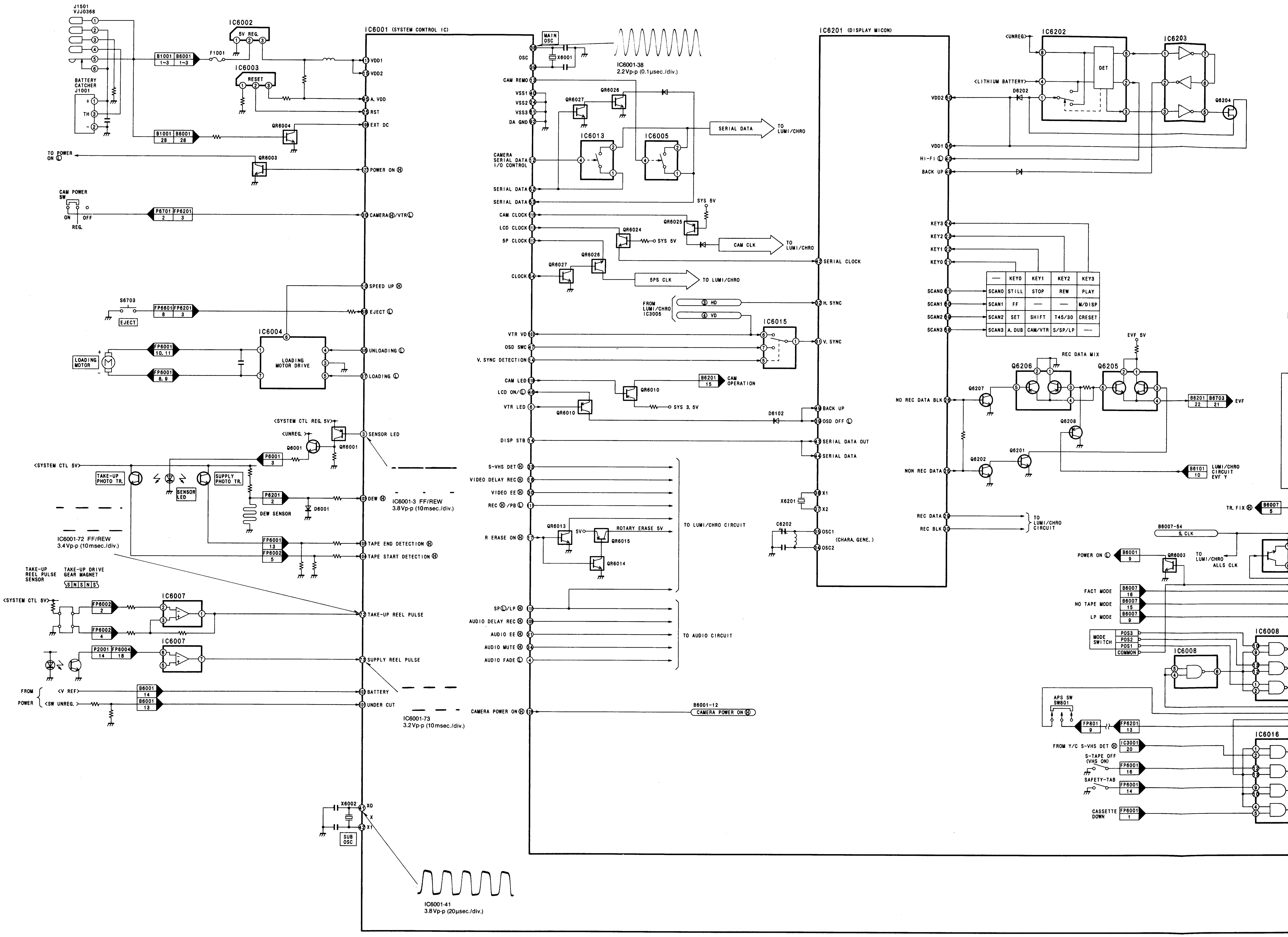
3-5. POWER BLOCK DIAGRAM


DC-JACK
POWER BLOCK
J1501
AC ADAPTOR
DC
CHARGER
G
TH
NO ADAPTOR SW ON
BATTERY CATCHER
ADAPTOR DC
D1501
R1115
D1502
B1001-14
EXTDC (H)
TO SYSTEM CTL
Q1006
L1001
Q1001 SW REG 5V
T1002
D1002
Q1001-C STOP
20Vp-p
(1μsec./div.)
D1003
L1002
L1003
D1015
IC1001
(SWITCHING REGULATOR)
REFERENCE VOLTAGE
VOLTAGE CTL
PWM COMPARATOR &BUFFER
TRI-WAVE OSC
ERROR AMP
QR1005
QR1004
D1009
HIGH VOLTAGE DET
IC1001-11 STOP
1.4Vp-p (1μsec./div.)
D1012
VREF
Q1003
D1004
L1007
L1008
Q1005
QR1002
Q1002
IC1001-9 STOP
1.3Vp-p (1μsec./div.)
Q1062
D1062
L1062
D1064
QR1061
BUFFER
IC1001-27 STOP
0.6Vp-p (1μsec./div.)
T1001
D1006
D1005
D1007
Q1004-C STOP
13Vp-p (1μsec./div.)
Q1004 SWITCHING
UNREG
B1001 15, 16, 17
B6001 4, 5, 6
TO SYSTEM CTL
FP6004 12
FP2003 12
TO SYSTEM CTL
EVF 5V
B1001 5
B6001 19
TO EVF
REG 5V
B1001 24
B6001 10
TO SYSTEM CTL/AUDIO
ST REG 5V
B1001 8
B6001 22
TO SYSTEM CTL
V. PB 5V
B1001 9
B6001 23
TO MIC/LUMICHRO
SW UNREG
B1001 27
B6001 13
TO SYSTEM CTL
SYS REG 3. 5V
B1001 13
B6001 27
TO SYSTEM CTL
REG 3. 5V
B1001 7
B6001 21
TO SYSTEM CTL
CAM 3. 5V
B1002 7, 12
FP304 13, 14
TO PROCESS
CAMERA. P. ON Ⓗ
B1001 26
B6001 12
FROM SYSTEM CTL
CAMERA 5V
B1002 5, 14
FP304 9, 10
TO PROCESS/LUMICHRO
CAP VM
B1001 1, 2
B6001 15, 16
TO SYSTEM CTL
CAP SW
B1001 4
B6001 18
TO SYSTEM CTL
TRI-WAVE
B1001 3
B6001 17
TO SYSTEM CTL
CAM 18V
B1002 10
FP304 18
TO SENSOR
CAM 9V
B1002 4, 15
FP304 7, 8
TO PROCESS
CAM -8V
B1002 9
FP304 17
TO SENSOR
VREF
B1001 28
B6001 14
TO SYSTEM CTL

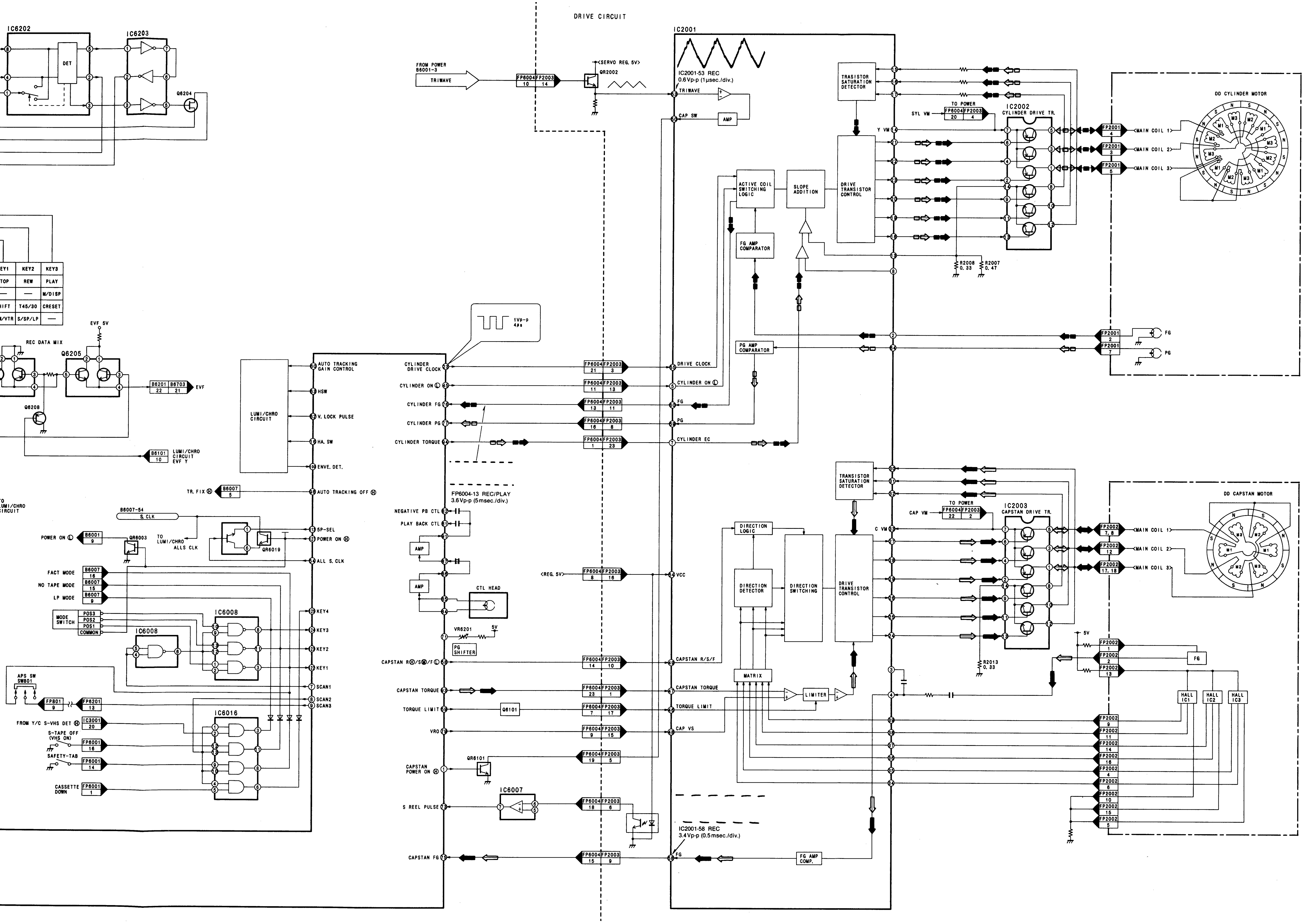
Back Page:
LENS DRIVE Section

3-6. SYSTEM CONTROL & SERVO BLOCK DIAGRAM

CAPSTAN SERVO SPEED LOOP CAPSTA

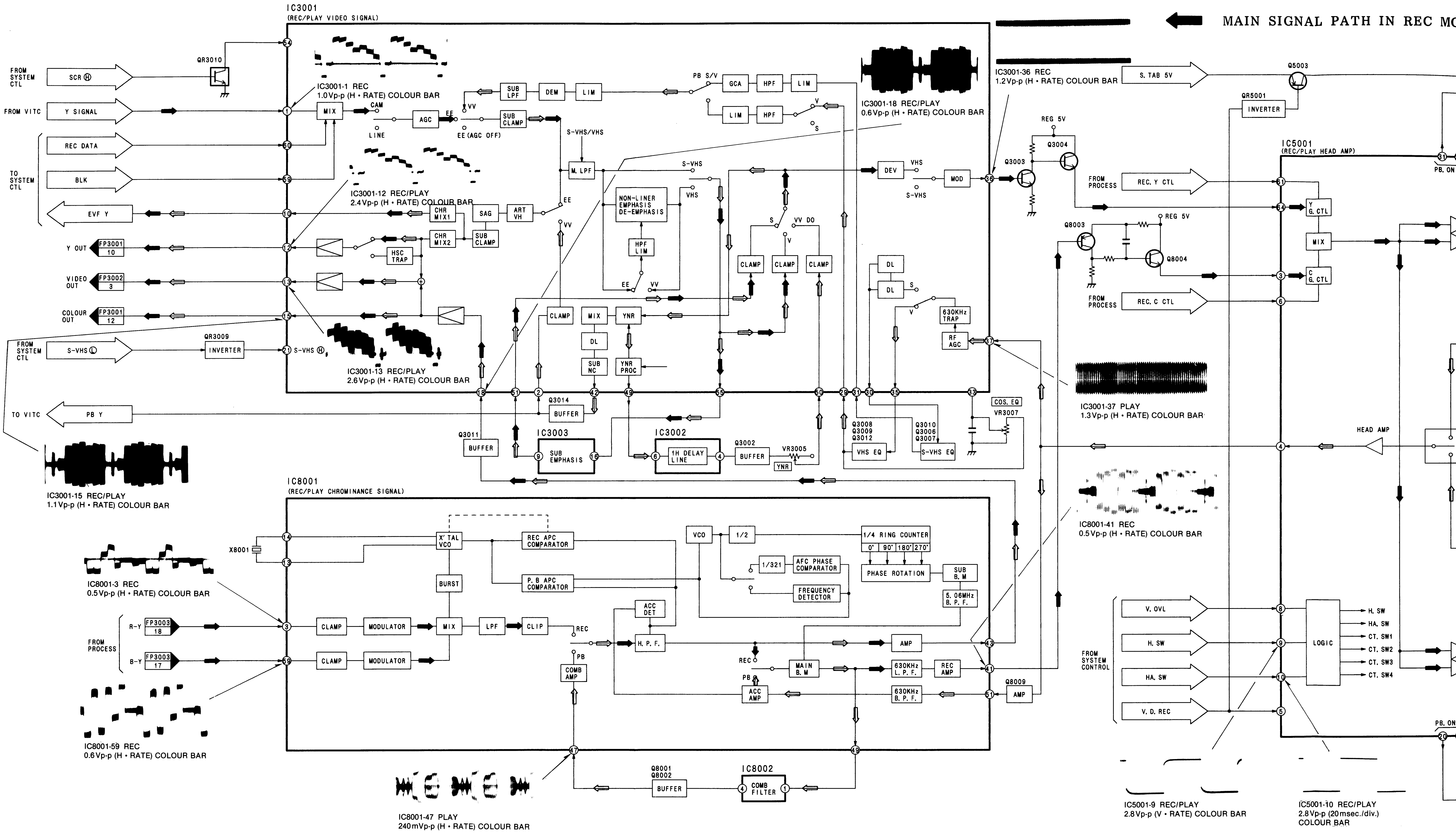

J1501
VJJ0368
BATTERY CATCHER J1001
TH
IC6002
5V REG.
IC6003
RESET
F1001
B1001 1~3
B6001 1~3
B1001 28
B6001 28
QR6004
QR6003
TO POWER ON Ⓛ
CAM POWER SW
ON OFF
REG.
P6701 2
FP6201 3
S6703
EJECT
FP6601 8
FP6201 3
IC6004
LOADING MOTOR
LOADING MOTOR DRIVE
FP6001 10, 11
FP6001 8, 9
<SYSTEM CTL REG. 5V>
<UNREG.>
Q6001
QR6001
P6001 3
<SYSTEM CTL 5V>
TAKE-UP PHOTO TR.
SENSOR LED
SUPPLY PHOTO TR.
P6201 2
D6001
DEW SENSOR
FP6001 13
FP6002 5
IC6001-72 FF/REW
3.4Vp-p (10msec./div.)
TAKE-UP REEL PULSE SENSOR
TAKE-UP DRIVE GEAR MAGNET
S N S N S
IC6007
FP6002 2
FP6002 4
P2001 14
FP6004 18
FROM POWER
<V REF>
<SW UNREG.>
B6001 14
B6001 13
IC6001 (SYSTEM CONTROL IC)
VDD1
VDD2
A. VDD
RST
EXT DC
POWER ON Ⓗ
CAMERA Ⓗ/VTR Ⓛ
SPEED UP Ⓗ
EJECT Ⓛ
UNLOADING Ⓛ
LOADING Ⓛ
SENSOR LED
DEW Ⓗ
TAPE END DETECTION Ⓗ
TAPE START DETECTION Ⓗ
TAKE-UP REEL PULSE
SUPPLY REEL PULSE
BATTERY
UNDER CUT
IC6001-3 FF/REW
3.8Vp-p (10msec./div.)
IC6001-73
3.2Vp-p (10msec./div.)
X6002
XO
X
X1
SUB OSC
IC6001-41
3.8Vp-p (20µsec./div.)
MAIN OSC
OSC
X6001
IC6001-38
2.2Vp-p (0.1µsec./div.)
CAM REMO
VSS1
VSS2
VSS3
DA GND
QR6027
QR6026
IC6013
IC6005
SERIAL DATA
TO LUMI/CHRO
CAMERA SERIAL DATA I/O CONTROL
SERIAL DATA
SERIAL DATA
CAM CLOCK
LCD CLOCK
5P CLOCK
SYS 5V
QR6025
QR6024
CAM CLK
CLOCK
5PS CLK
FROM LUMI/CHRO IC3005
HD
VD
IC6015
VTR VD
OSD SWC
V. SYNC DETECTION
CAM LED
LCD ON/Ⓛ
VTR LED
QR6010
B6201 15
CAM OPERATION
SYS 3.5V
D6102
DISP STB
S-VHS DET Ⓗ
VIDEO DELAY REC Ⓗ
VIDEO EE Ⓗ
REC Ⓗ/PB Ⓛ
R ERASE ON Ⓗ
QR6013
5V
ROTARY ERASE 5V
QR6015
QR6014
TO LUMI/CHRO CIRCUIT
SPⓁ/LP Ⓗ
AUDIO DELAY REC Ⓗ
AUDIO EE Ⓗ
AUDIO MUTE Ⓗ
AUDIO FADE Ⓛ
TO AUDIO CIRCUIT
CAMERA POWER ON Ⓗ
B6001-12
CAMERA POWER ON Ⓗ
IC6201 (DISPLAY MICON)
SERIAL CLOCK
H. SYNC
V. SYNC
BACK UP
OSD OFF Ⓛ
SERIAL DATA OUT
SERIAL DATA
X6201
X1
X2
C6202
OSC1
OSC2
(CHARA. GENE.)
VDD2
VDD1
HI-FI Ⓛ
BACK UP
KEY3
KEY2
KEY1
KEY0
SCAN0
SCAN1
SCAN2
SCAN3
— KEY0 KEY1 KEY2 KEY3
SCAN0 STILL STOP REW PLAY
SCAN1 FF — — M/DISP
SCAN2 SET SHIFT T45/30 CRESET
SCAN3 A. DUB CAM/VTR S/SP/LP —
NO REC DATA BLK
NON REC DATA
REC DATA
REC BLK
TO LUMI/CHRO CIRCUIT
<UNREG>
IC6202
<LITHIUM BATTERY>
D6202
DET
IC6203
Q6204
EVF 5V
REC DATA MIX
Q6206
Q6205
Q6207
Q6208
Q6202
Q6201
B6201 22
B6703 21
EVF
B6101 10
LUMI/CHRO CIRCUIT EVF Y
TR. FIX Ⓗ
B6007 5
B6007-54
S. CLK
POWER ON Ⓛ
B6001 9
QR6003
TO LUMI/CHRO ALLS CLK
FACT MODE
B6007 16
NO TAPE MODE
B6007 15
LP MODE
B6007 9
MODE SWITCH
POS3
POS2
POS1
COMMON
IC6008
IC6008
APS SW SW801
FP801 9
FP6201 13
FROM Y/C S-VHS DET Ⓗ
IC3001 20
S-TAPE OFF (VHS ON)
FP6001 16
SAFETY-TAB
FP6001 14
CASSETTE DOWN
FP6001 1
IC6016

EED LOOP ⇦ CAPSTAN SERVO PHASE LOOP ◀■ CYLINDER SERVO SPEED LOOP ⇦□ CYLINDER SERVO PHASE LOOP



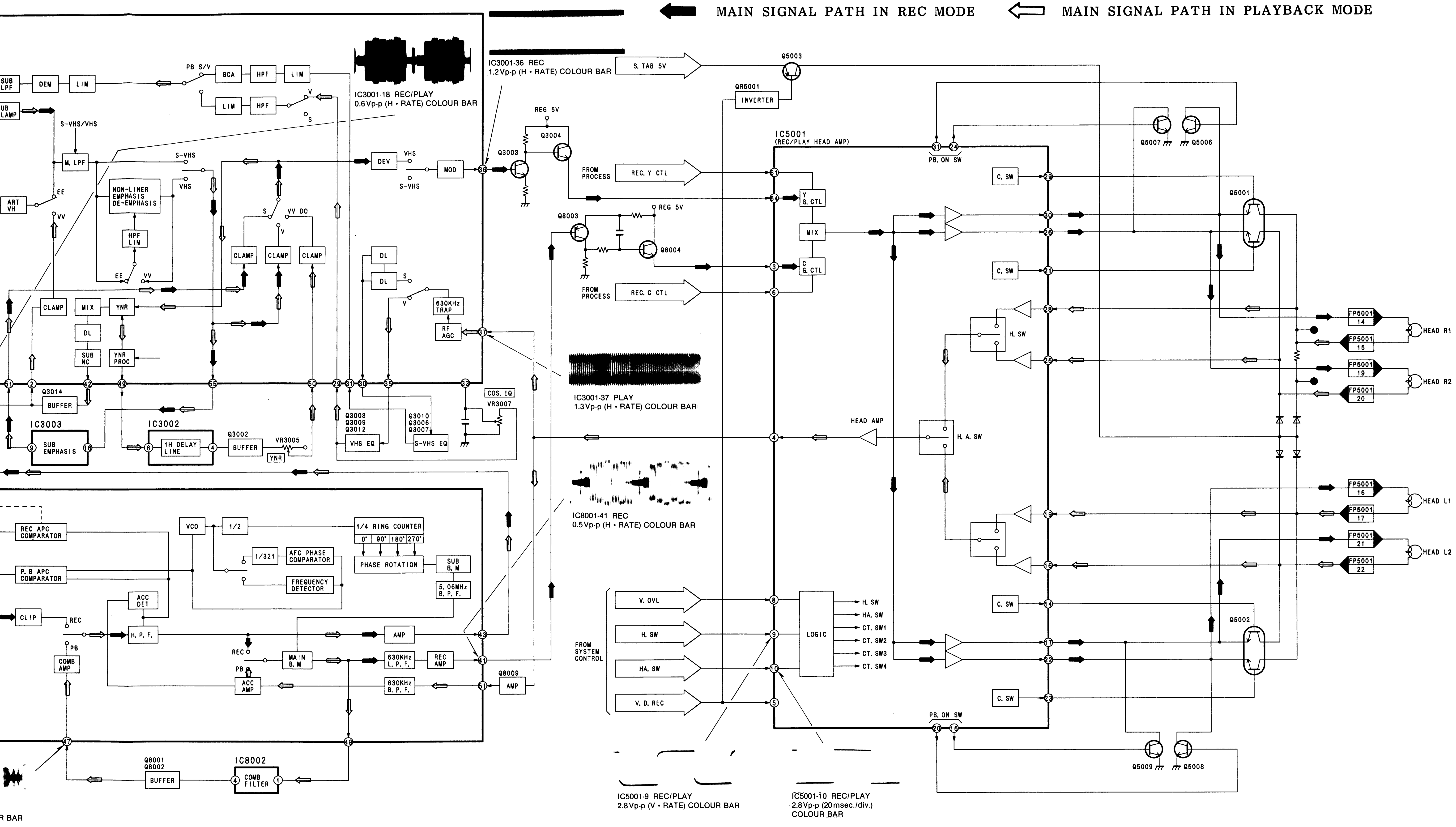
DRIVE CIRCUIT
IC2001
IC6202
IC6203
DET
Q6204
FROM POWER B6001-3
TRIWAVE
FP6004 FP2003
<SERVO REG. 5V>
QR2002
IC2001-53 REC 0.6Vp-p (1μsec./div.)
TRIWAVE
CAP SW
AMP
TRASISTOR SATURATION DETECTOR
TO POWER
SYL VM
IC2002 CYLINDER DRIVE TR.
Y VM
DD CYLINDER MOTOR
MAIN COIL 1
MAIN COIL 2
MAIN COIL 3
ACTIVE COIL SWITCHING LOGIC
SLOPE ADDITION
DRIVE TRANSISTOR CONTROL
FG AMP COMPARATOR
R2008 0.33
R2007 0.47
PG AMP COMPARATOR
FG
PG
KEY1 KEY2 KEY3
STOP REW PLAY
M/DISP
SHIFT T45/30 CRESET
TV/VTR S/SP/LP
EVF 5V
REC DATA MIX
Q6205
Q6208
B6201 B6703
EVF
B6101 LUMI/CHRO CIRCUIT EVF Y
LUMI/CHRO CIRCUIT
1Vp-p 4μs
AUTO TRACKING GAIN CONTROL
HSW
V. LOCK PULSE
HA. SW
ENVE. DET.
AUTO TRACKING OFF
CYLINDER DRIVE CLOCK
CYLINDER ON
CYLINDER FG
CYLINDER PG
CYLINDER TORQUE
DRIVE CLOCK
CYLINDER EC
TR. FIX B6007
FP6004-13 REC/PLAY 3.6Vp-p (5msec./div.)
TO LUMI/CHRO CIRCUIT
B6007-54 S. CLK
TO LUMI/CHRO ALLS CLK
QR6003
QR6019
POWER ON
5P-SEL
ALL S. CLK
NEGATIVE PB CTL
PLAY BACK CTL
AMP
CTL HEAD
FACT MODE
NO TAPE MODE
LP MODE
MODE SWITCH POS3 POS2 POS1 COMMON
IC6008
IC6016
KEY4
VR6201 5V
PG SHIFTER
<REG. 5V>
VCC
TRANSISTOR SATURATION DETECTOR
CAP VM
C VM
IC2003 CAPSTAN DRIVE TR.
DD CAPSTAN MOTOR
DIRECTION LOGIC
DIRECTION DETECTOR
DIRECTION SWITCHING
APS SW SW801
FP801 FP6201
SCAN1 SCAN2 SCAN3
FROM Y/C S-VHS DET IC3001
S-TAPE OFF (VHS ON)
SAFETY-TAB
CASSETTE DOWN
CAPSTAN R/S/F
CAPSTAN TORQUE
TORQUE LIMIT
Q6101
VRO
CAP VS
MATRIX
LIMITER
R2013 0.33
5V
HALL IC1
HALL IC2
HALL IC3
CAPSTAN POWER ON
QR6101
IC6007
S REEL PULSE
IC2001-58 REC 3.4Vp-p (0.5msec./div.)
CAPSTAN FG
FG AMP COMP.
FP2001
FP2002

3-7. LUMINANCE/CHROMINANCE & HEAD AMP BLOCK DIAGRAM


MAIN SIGNAL PATH IN REC MO
IC3001
(REC/PLAY VIDEO SIGNAL)
FROM SYSTEM CTL
SCR Ⓗ
QR3010
FROM VITC
Y SIGNAL
REC DATA
TO SYSTEM CTL
BLK
EVF Y
Y OUT
FP3001 10
VIDEO OUT
FP3002 3
COLOUR OUT
FP3001 12
FROM SYSTEM CTL
S-VHS Ⓛ
QR3009
INVERTER
S-VHS Ⓗ
TO VITC
PB Y
IC3001-1 REC
1.0Vp-p (H • RATE) COLOUR BAR
IC3001-12 REC/PLAY
2.4Vp-p (H • RATE) COLOUR BAR
IC3001-13 REC/PLAY
2.6Vp-p (H • RATE) COLOUR BAR
IC3001-15 REC/PLAY
1.1Vp-p (H • RATE) COLOUR BAR
IC3001-18 REC/PLAY
0.6Vp-p (H • RATE) COLOUR BAR
IC3001-36 REC
1.2Vp-p (H • RATE) COLOUR BAR
IC3001-37 PLAY
1.3Vp-p (H • RATE) COLOUR BAR
MIX
CAM
LINE
AGC
EE
EE (AGC OFF)
VV
SUB LPF
DEM
LIM
SUB CLAMP
PB S/V
GCA
HPF
LIM
LIM
HPF
V
S
S-VHS/VHS
M. LPF
S-VHS
VHS
NON-LINER EMPHASIS DE-EMPHASIS
HPF LIM
EE
VV
DEV
VHS
S-VHS
MOD
S
VV DO
V
CLAMP
CLAMP
CLAMP
DL
DL
S
V
630KHz TRAP
RF AGC
CHR MIX1
SAG
ART VH
CHR MIX2
SUB CLAMP
HSC TRAP
CLAMP
MIX
YNR
DL
SUB NC
YNR PROC
Q3014
BUFFER
IC3003
SUB EMPHASIS
IC3002
1H DELAY LINE
Q3002
BUFFER
VR3005
YNR
Q3011
BUFFER
Q3008
Q3009
Q3012
VHS EQ
Q3010
Q3006
Q3007
S-VHS EQ
COS. EQ
VR3007
IC8001
(REC/PLAY CHROMINANCE SIGNAL)
X8001
X' TAL VCO
REC APC COMPARATOR
P. B APC COMPARATOR
BURST
VCO
1/2
1/4 RING COUNTER
0° 90° 180° 270°
1/321
AFC PHASE COMPARATOR
FREQUENCY DETECTOR
PHASE ROTATION
SUB B. M
5. 06MHz B. P. F.
FROM PROCESS
R-Y
FP3003 18
B-Y
FP3003 17
CLAMP
MODULATOR
MIX
LPF
CLIP
REC
CLAMP
MODULATOR
ACC DET
H. P. F.
AMP
PB
COMB AMP
REC
MAIN B. M
630KHz L. P. F.
REC AMP
PB
ACC AMP
630KHz B. P. F.
Q8009
AMP
IC8001-3 REC
0.5Vp-p (H • RATE) COLOUR BAR
IC8001-59 REC
0.6Vp-p (H • RATE) COLOUR BAR
IC8001-41 REC
0.5Vp-p (H • RATE) COLOUR BAR
IC8001-47 PLAY
240mVp-p (H • RATE) COLOUR BAR
Q8001
Q8002
BUFFER
IC8002
COMB FILTER
S. TAB 5V
Q5003
QR5001
INVERTER
REG 5V
Q3004
Q3003
IC5001
(REC/PLAY HEAD AMP)
PB. ON
FROM PROCESS
REC. Y CTL
Y G. CTL
REG 5V
Q8003
Q8004
MIX
C G. CTL
FROM PROCESS
REC. C CTL
HEAD AMP
FROM SYSTEM CONTROL
V. OVL
H. SW
HA. SW
V. D. REC
LOGIC
H. SW
HA. SW
CT. SW1
CT. SW2
CT. SW3
CT. SW4
PB. ON
IC5001-9 REC/PLAY
2.8Vp-p (V • RATE) COLOUR BAR
IC5001-10 REC/PLAY
2.8Vp-p (20msec./div.)
COLOUR BAR

Back Page:
SYSTEM CTL & SERVO Section

CK DIAGRAM


MAIN SIGNAL PATH IN REC MODE
MAIN SIGNAL PATH IN PLAYBACK MODE
SUB LPF
DEM
LIM
SUB CLAMP
PB S/V
GCA
HPF
LIM
V
S
S-VHS/VHS
M. LPF
S-VHS
VHS
EE
VV
ART VH
NON-LINER EMPHASIS DE-EMPHASIS
HPF LIM
CLAMP
MIX
YNR
DL
SUB NC
YNR PROC
VV DO
DEV
MOD
630KHz TRAP
RF AGC
Q3014
BUFFER
IC3003
SUB EMPHASIS
IC3002
1H DELAY LINE
Q3002
BUFFER
VR3005
YNR
Q3008
Q3009
Q3012
VHS EQ
Q3010
Q3006
Q3007
S-VHS EQ
COS. EQ
VR3007
REC APC COMPARATOR
P. B APC COMPARATOR
VCO
1/2
1/4 RING COUNTER
0°
90°
180°
270°
1/321
AFC PHASE COMPARATOR
PHASE ROTATION
SUB B. M
FREQUENCY DETECTOR
5. 06MHz B. P. F.
ACC DET
CLIP
REC
PB
H. P. F.
AMP
MAIN B. M
630KHz L. P. F.
REC AMP
ACC AMP
630KHz B. P. F.
COMB AMP
Q8009
AMP
Q8001
Q8002
BUFFER
IC8002
COMB FILTER
S. TAB 5V
Q5003
QR5001
INVERTER
REG 5V
Q3004
Q3003
FROM PROCESS
REC. Y CTL
Q8003
Q8004
REC. C CTL
IC5001
(REC/PLAY HEAD AMP)
PB. ON SW
Y G. CTL
MIX
C G. CTL
C. SW
H. SW
HEAD AMP
H. A. SW
V. OVL
H. SW
HA. SW
V. D. REC
FROM SYSTEM CONTROL
LOGIC
H. SW
HA. SW
CT. SW1
CT. SW2
CT. SW3
CT. SW4
Q5007
Q5006
Q5001
Q5002
Q5009
Q5008
FP5001 14
FP5001 15
FP5001 19
FP5001 20
FP5001 16
FP5001 17
FP5001 21
FP5001 22
HEAD R1
HEAD R2
HEAD L1
HEAD L2

IC3001-18 REC/PLAY
0.6Vp-p (H • RATE) COLOUR BAR

IC3001-36 REC
1.2Vp-p (H • RATE) COLOUR BAR

IC3001-37 PLAY
1.3Vp-p (H • RATE) COLOUR BAR

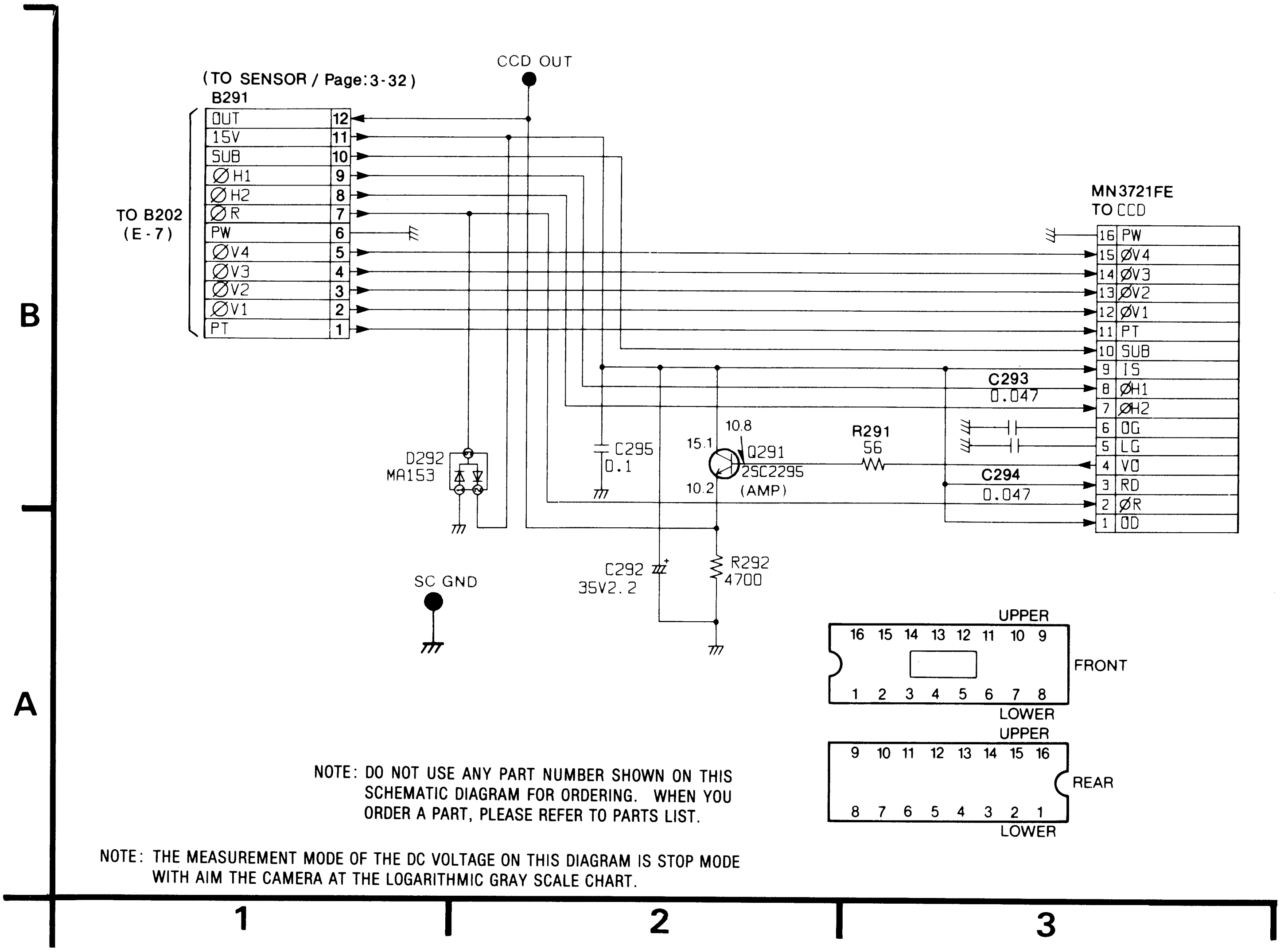
IC8001-41 REC
0.5Vp-p (H • RATE) COLOUR BAR

R BAR

IC5001-9 REC/PLAY
2.8Vp-p (V • RATE) COLOUR BAR

IC5001-10 REC/PLAY
2.8Vp-p (20msec./div.)
COLOUR BAR

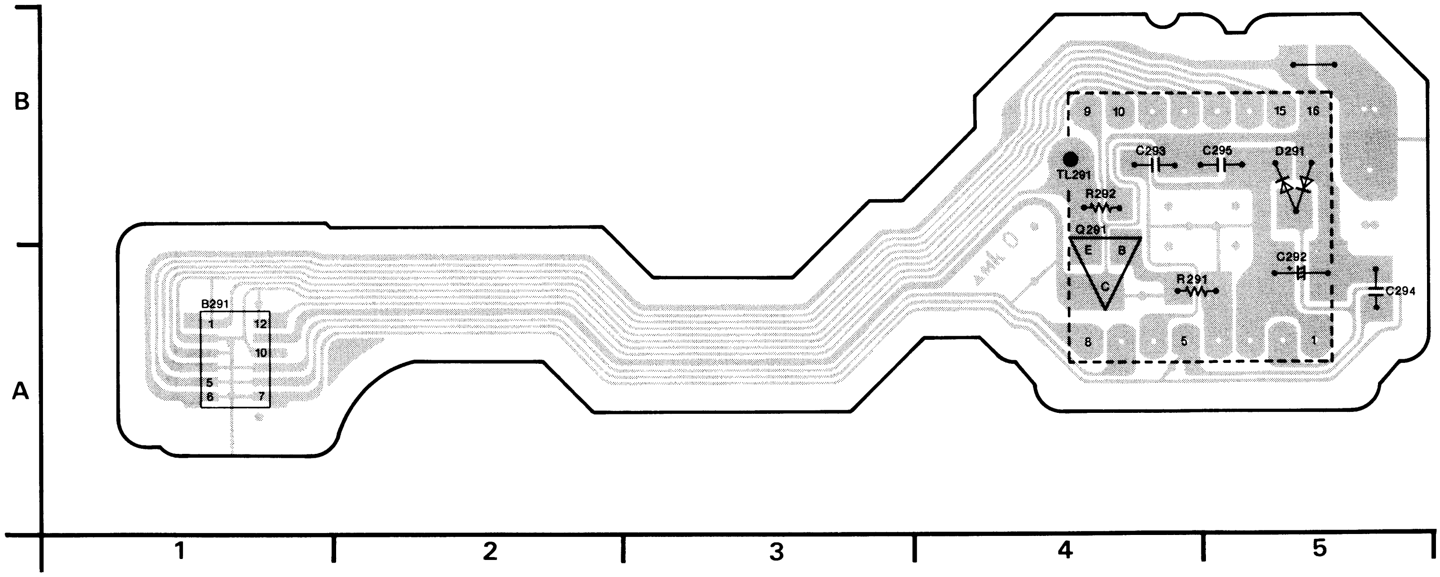
3-8. CCD FLEXIBLE CARD SCHEMATIC DIAGRAM


CCD OUT
(TO SENSOR / Page:3-32)
B291
OUT 12
15V 11
SUB 10
ØH1 9
ØH2 8
ØR 7
PW 6
ØV4 5
ØV3 4
ØV2 3
ØV1 2
PT 1
TO B202
(E-7)
MN3721FE
TO CCD
16 PW
15 ØV4
14 ØV3
13 ØV2
12 ØV1
11 PT
10 SUB
9 IS
8 ØH1
7 ØH2
6 OG
5 LG
4 VO
3 RD
2 ØR
1 OD
C293
0.047
C294
0.047
R291
56
10.8
15.1
Q291
2SC2295
(AMP)
10.2
C295
0.1
D292
MA153
C292
35V2.2
R292
4700
SC GND
UPPER
16 15 14 13 12 11 10 9
FRONT
1 2 3 4 5 6 7 8
LOWER
UPPER
9 10 11 12 13 14 15 16
REAR
8 7 6 5 4 3 2 1
LOWER
B
A
1
2
3

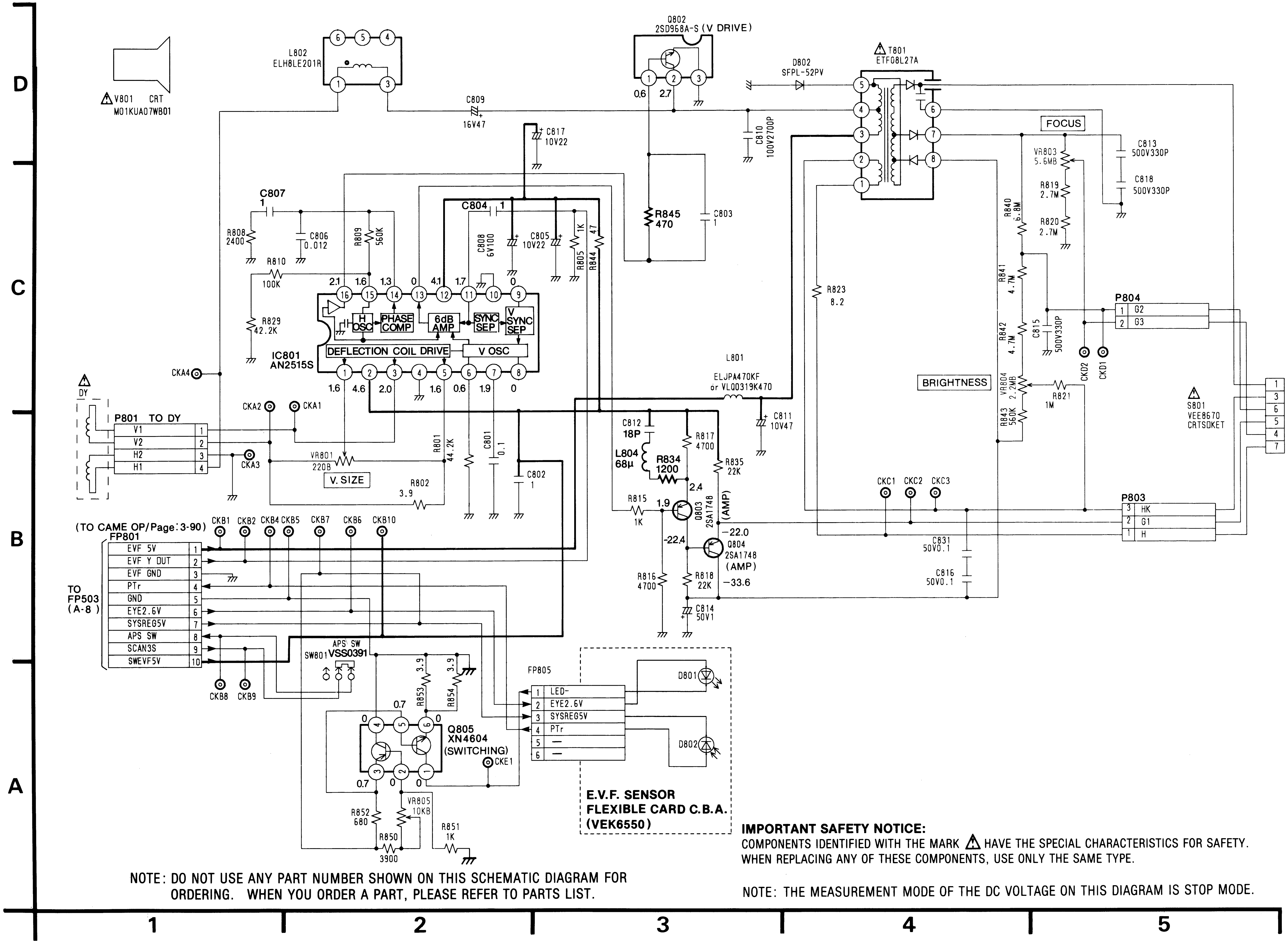
NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE WITH AIM THE CAMERA AT THE LOGARITHMIC GRAY SCALE CHART.

3-9. CCD FLEXIBLE CARD C.B.A. (VEK6611)


B291
1
12
10
5
6
7
9
10
15
16
TL291
C293
C295
D291
R292
Q291
E
B
C
R291
C292
C294
8
5
1
B
A
1
2
3
4
5

3-10. E.V.F. SCHEMATIC DIAGRAM



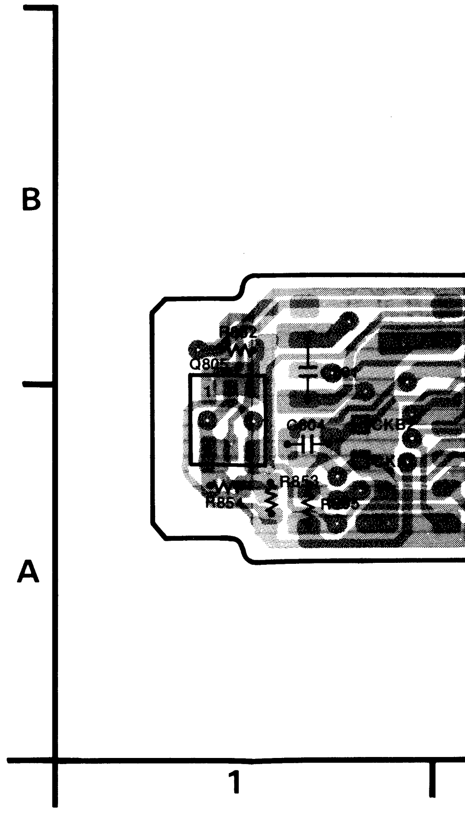
D
C
B
A
1
2
3
4
5
⚠V801 CRT
M01KUA07WB01
L802
ELH8LE201R
C809
16V47
Q802
2SD968A-S (V DRIVE)
0.6
2.7
D802
SFPL-52PV
⚠T801
ETF08L27A
C810
100V2700P
FOCUS
C813
500V330P
C818
500V330P
VR803
5.6MB
R819
2.7M
R820
2.7M
R840
6.8M
C817
10V22
C807
1
R808
2400
C806
0.012
R809
560K
C804
1
C808
6V100
C805
10V22
R805
1K
R844
47
R845
470
C803
1
R810
100K
R829
42.2K
IC801
AN2515S
H OSC
PHASE COMP
6dB AMP
SYNC SEP
V SYNC SEP
DEFLECTION COIL DRIVE
V OSC
2.1
1.6
1.3
0
4.1
1.7
0
1.6
4.6
2.0
1.6
0.6
1.9
0
R823
8.2
R841
4.7M
R842
4.7M
C815
500V330P
VR804
2.2MB
R843
560K
R821
1M
BRIGHTNESS
P804
G2
G3
CKD2
CKD1
⚠S801
VEE8670
CRTSOKET
CKA4
⚠DY
P801 TO DY
V1
V2
H2
H1
CKA2
CKA1
CKA3
VR801
220B
V. SIZE
R801
44.2K
C801
0.1
R802
3.9
C802
1
L801
ELJPA470KF
or VLQ0319K470
C811
10V47
C812
18P
L804
68μ
R834
1200
R817
4700
R835
22K
2.4
R815
1K
1.9
Q803
2SA1748
(AMP)
-22.0
-22.4
Q804
2SA1748
(AMP)
R816
4700
R818
22K
-33.6
C814
50V1
CKC1
CKC2
CKC3
C831
50V0.1
C816
50V0.1
P803
HK
G1
H
(TO CAME OP/Page: 3-90)
FP801
TO
FP503
(A-8)
CKB1
CKB2
CKB4
CKB5
CKB7
CKB6
CKB10
EVF 5V
EVF Y OUT
EVF GND
PTr
GND
EYE2.6V
SYSREG5V
APS SW
SCAN3S
SWEVF5V
CKB8
CKB9
APS SW
SW801 VSS0391
R853
3.9
R854
3.9
0.7
Q805
XN4604
(SWITCHING)
CKE1
0.7
0
0
R852
680
VR805
10KB
R850
3900
R851
1K
FP805
LED-
EYE2.6V
SYSREG5V
PTr
—
—
D801
D802
E.V.F. SENSOR
FLEXIBLE CARD C.B.A.
(VEK6550)

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED WITH THE MARK ⚠ HAVE THE SPECIAL CHARACTERISTICS FOR SAFETY. WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SAME TYPE.

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE.

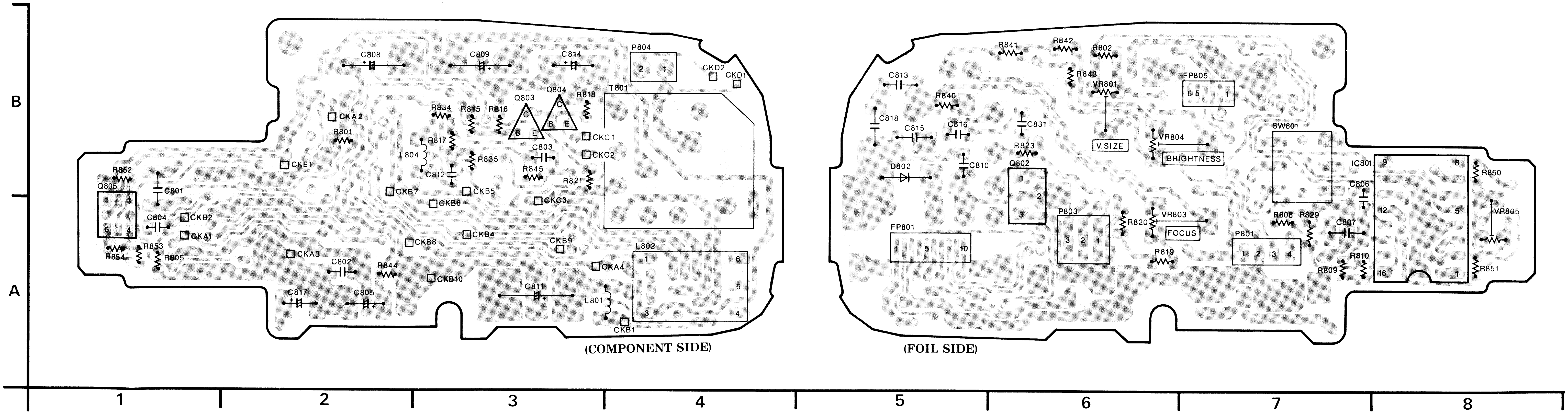
3-11. E.V.F. C.B.A. (VEP



3-11. E.V.F. C.B.A. (VEP28069A)

EVF C.B.A.	
Integrated Circuit	
IC801	A-8
Transistor	
Q802	B-6
Q803	B-3
Q804	B-3
Q805	A-1
Adjustment	
VR801	B-6
VR803	A-7
VR804	B-7
VR805	A-8
Connector	
FP801	A-5
FP805	B-7
P801	A-7
P803	A-6
P804	B-4

ADDRESS INFORMATION

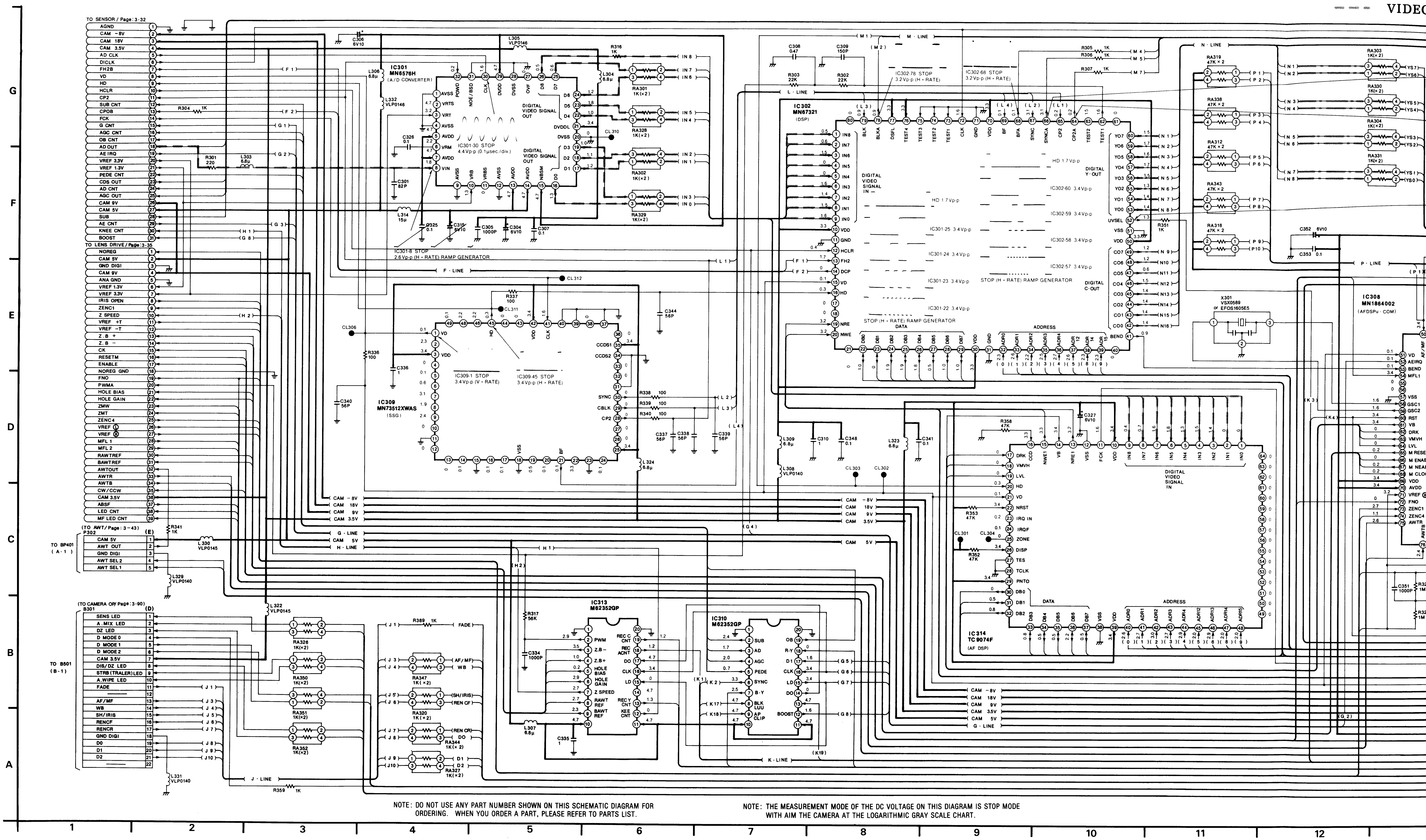


B
A
1
2
3
4
5
6
7
8
R852
Q805
C801
C804
CKB2
CKA1
R853
R854
R805
CKE1
CKA2
R801
CKA3
C802
C817
C805
R844
CKB10
C808
C809
C814
P804
CKD2
CKD1
Q803
Q804
R834
R815
R816
R818
T801
L804
R817
C812
R835
C803
R845
CKC1
CKC2
R821
CKB7
CKB5
CKB6
CKC3
CKB8
CKB4
CKB9
C811
L801
CKB1
CKA4
L802
C813
C818
R840
C815
C816
C831
R841
R842
R802
R843
VR801
FP805
V.SIZE
VR804
BRIGHTNESS
D802
C810
R823
Q802
P803
FP801
R820
VR803
FOCUS
R819
SW801
IC801
C806
R850
VR805
R808
R829
C807
P801
R809
R810
R851

(COMPONENT SIDE)

(FOIL SIDE)

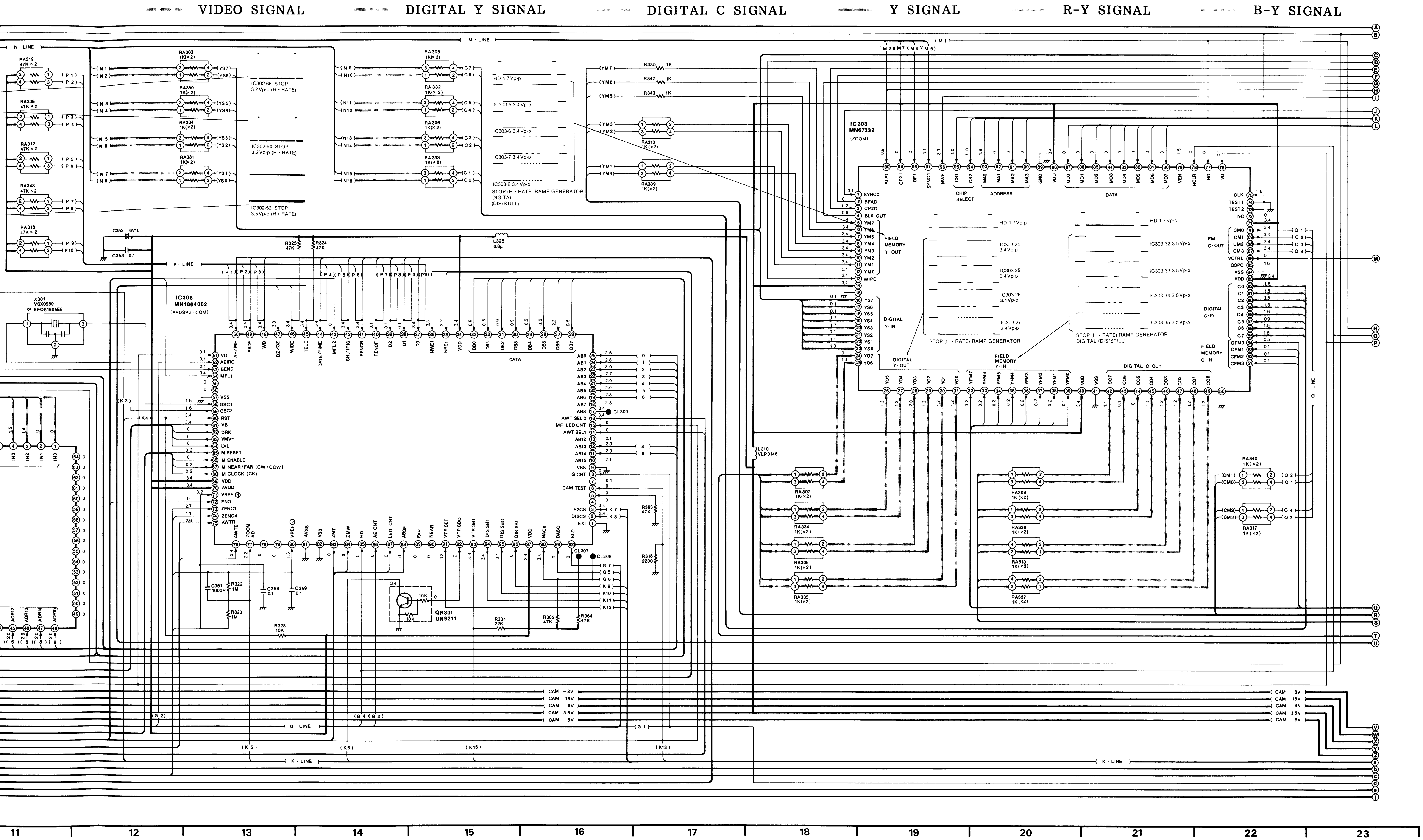
3-12. PROCESS SCHEMATIC DIAGRAM

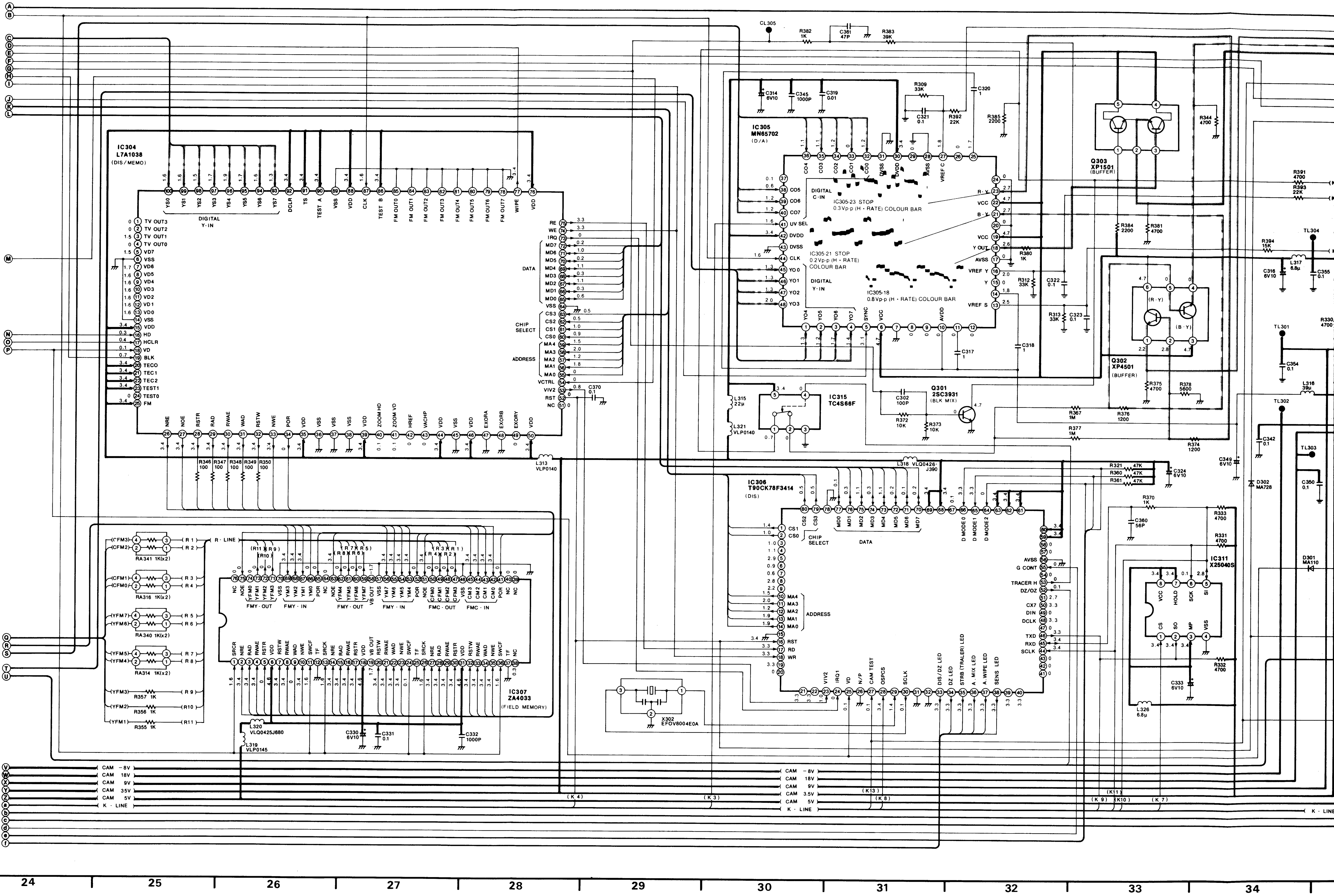

VIDEC
TO SENSOR / Page : 3-32
AGND
CAM -8V
CAM 18V
CAM 3.5V
AD CLK
DICLK
FH2B
VD
HD
HCLR
CP2
SUB CNT
CPOB
FCK
G CNT
AGC CNT
OB CNT
AD OUT
AE IRQ
VREF 3.3V
VREF 1.3V
PEDE CNT
CDS OUT
AD CNT
AGC OUT
CAM 9V
CAM 3.5V
SUB
AE CNT
KNEE CNT
BOOST
TO LENS DRIVE / Page : 3-35
NOREG
CAM 5V
GND DIGI
CAM 9V
ANA GND
VREF 1.3V
VREF 3.3V
IRIS OPEN
ZENC1
Z SPEED
VREF +T
VREF -T
Z.B +
Z.B -
CK
RESETM
ENABLE
NOREG GND
FNO
PWMA
HOLE BIAS
HOLE GAIN
ZMW
ZMT
ZENC4
MFL 1
MFL 2
RAWTREF
BAWTREF
AWTOUT
AWTR
AWTB
CW/CCW
CAM 3.5V
ABSF
LED CNT
MF LED CNT
(TO AWT / Page : 3-43)
P302
TO BP401 (A-1)
CAM 5V
AWT OUT
GND DIGI
AWT SEL 2
AWT SEL 1
(TO CAMERA OP Page : 3-90)
B301
TO B501 (B-1)
SENS LED
A.MIX LED
DZ LED
D MODE 0
D MODE 1
D MODE 2
CAM 3.5V
DIS/DZ LED
STRB (TRALER) LED
A.WIPE LED
FADE
AF/MF
WB
SH/IRIS
RENCF
RENCR
GND DIGI
D0
D1
D2
IC301
MN6576H
(A/D CONVERTER)
IC301-30 STOP
4.4 Vp-p (0.1μsec./div.)
DIGITAL VIDEO SIGNAL OUT
IC301-8 STOP
2.6 Vp-p (H・RATE) RAMP GENERATOR
F・LINE
IC309
MN73512XWAS
(SSG)
IC309-1 STOP
3.4 Vp-p (V・RATE)
IC309-45 STOP
3.4 Vp-p (H・RATE)
IC302
MN67321
(DSP)
IC302-78 STOP
3.2 Vp-p (H・RATE)
IC302-68 STOP
3.2 Vp-p (H・RATE)
DIGITAL VIDEO SIGNAL IN
DIGITAL Y-OUT
DIGITAL C-OUT
STOP (H・RATE) RAMP GENERATOR
M・LINE
N・LINE
L・LINE
IC308
MN1864002
(AFDSPu・COM)
X301
VSX0589
or EFOS1605E5
P・LINE
IC314
TC9074F
(AF DSP)
DIGITAL VIDEO SIGNAL IN
DATA
ADDRESS
IC313
M62352GP
IC310
M62352GP
G・LINE
H・LINE
J・LINE
K・LINE
CAM -8V
CAM 18V
CAM 9V
CAM 3.5V
CAM 5V
A
B
C
D
E
F
G
1
2
3
4
5
6
7
8
9
10
11
12

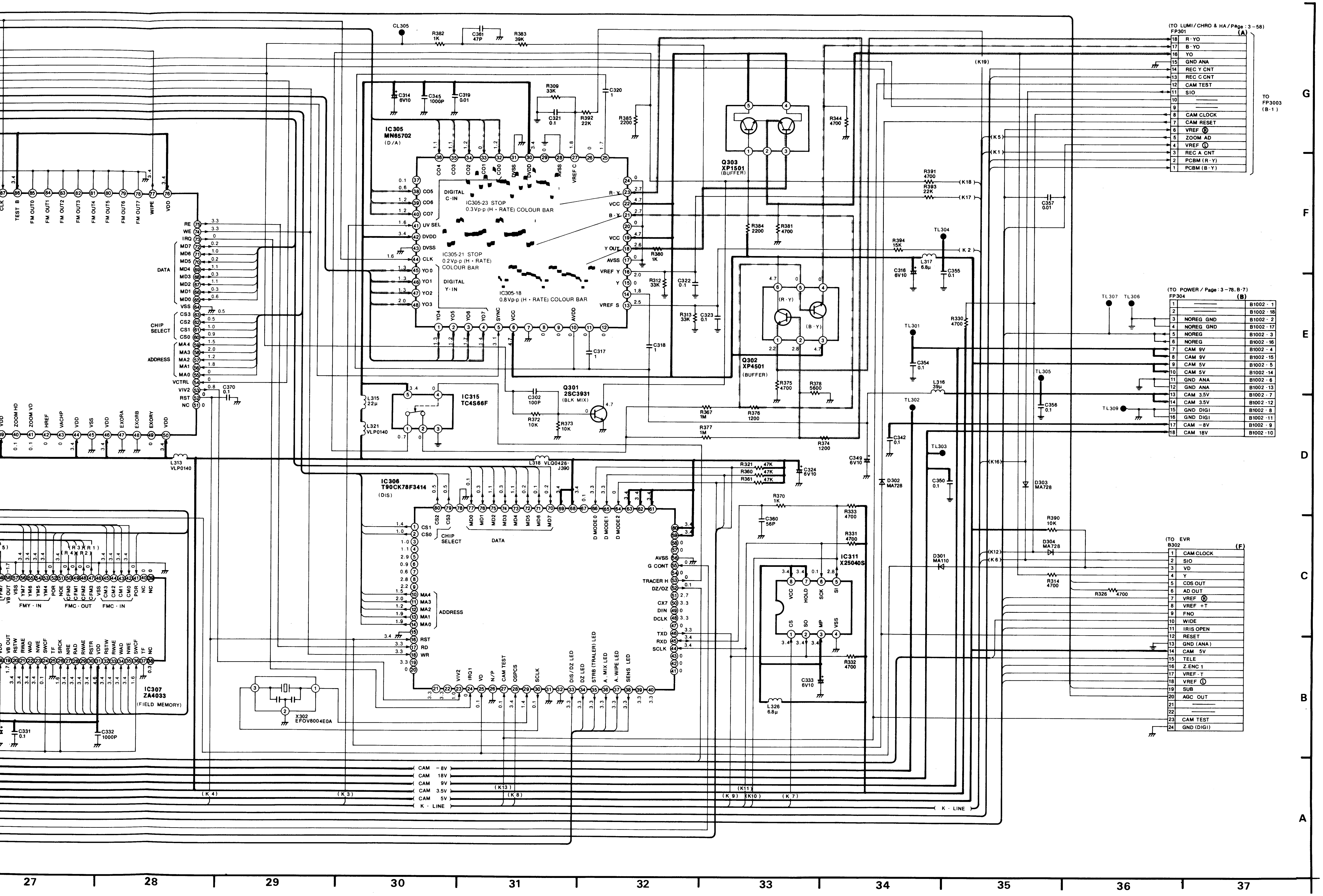
NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE WITH AIM THE CAMERA AT THE LOGARITHMIC GRAY SCALE CHART.

Back Page:
E.V.F. Section


VIDEO SIGNAL
DIGITAL Y SIGNAL
DIGITAL C SIGNAL
Y SIGNAL
R-Y SIGNAL
B-Y SIGNAL
N · LINE
M · LINE
P · LINE
G · LINE
K · LINE
Q · LINE
IC303
MN67332
(ZOOM)
IC308
MN1864002
(AFDSPu · COM)
QR301
UN9211
X301
VSX0589
or EFOS1605E5
L310
VLP0146
L325
6.8μ
IC302-66 STOP 3.2Vp-p (H · RATE)
IC302-64 STOP 3.2Vp-p (H · RATE)
IC302-52 STOP 3.5Vp-p (H · RATE)
HD 1.7Vp-p
IC303-5 3.4Vp-p
IC303-6 3.4Vp-p
IC303-7 3.4Vp-p
IC303-8 3.4Vp-p
STOP (H · RATE) RAMP GENERATOR
DIGITAL (DIS/STILL)
IC303-24 3.4Vp-p
IC303-25 3.4Vp-p
IC303-26 3.4Vp-p
IC303-27 3.4Vp-p
IC303-32 3.5Vp-p
IC303-33 3.5Vp-p
IC303-34 3.5Vp-p
IC303-35 3.5Vp-p
FIELD MEMORY Y · OUT
DIGITAL Y · IN
FIELD MEMORY Y · IN
DIGITAL Y · OUT
FM C · OUT
DIGITAL C · IN
FIELD MEMORY C · IN
DIGITAL C · OUT
CHIP SELECT
ADDRESS
DATA
CAM -8V
CAM 18V
CAM 9V
CAM 3.5V
CAM 5V
11
12
13
14
15
16
17
18
19
20
21
22
23


IC304
L7A1038
(DIS/MEMO)
DIGITAL Y-IN
DATA
CHIP SELECT
ADDRESS
IC305
MN65702
(D/A)
DIGITAL C-IN
DIGITAL Y-IN
IC305-23 STOP 0.3Vp-p (H·RATE) COLOUR BAR
IC305-21 STOP 0.2Vp-p (H·RATE) COLOUR BAR
IC305-18 0.8Vp-p (H·RATE) COLOUR BAR
Q303 XP1501 (BUFFER)
Q302 XP4501 (BUFFER)
Q301 2SC3931 (BLK MIX)
IC315 TC4S66F
IC306 T90CK78F3414 (DIS)
IC307 ZA4033 (FIELD MEMORY)
IC311 X25040S
X302 EFOV8004E0A
R-LINE
RA341 1K(x2)
RA316 1K(x2)
RA340 1K(x2)
RA314 1K(x2)
L313 VLP0140
L318 VLQ0426-J390
L320 VLQ0425J680
L319 VLP0145
L315 22μ
L321 VLP0140
D302 MA728
D301 MA110
TL301
TL302
TL303
TL304
CL305
CAM -8V
CAM 18V
CAM 9V
CAM 3.5V
CAM 5V
K·LINE
24
25
26
27
28
29
30
31
32
33
34


IC305
MN65702
(D/A)
DIGITAL C-IN
DIGITAL Y-IN
IC305-23 STOP
0.3Vp-p (H・RATE) COLOUR BAR
IC305-21 STOP
0.2Vp-p (H・RATE) COLOUR BAR
IC305-18
0.8Vp-p (H・RATE) COLOUR BAR
Q303
XP1501
(BUFFER)
Q302
XP4501
(BUFFER)
Q301
2SC3931
(BLK MIX)
IC315
TC4S66F
IC306
T90CK78F3414
(DIS)
CHIP SELECT
DATA
ADDRESS
IC311
X25040S
IC307
ZA4033
(FIELD MEMORY)
FMY-IN
FMC-OUT
FMC-IN
X302
EFOV8004E0A
L313 VLP0140
L315 22µ
L321 VLP0140
L318 VLQ0426・J390
L316 39µ
L317 6.8µ
L326 6.8µ
D301 MA110
D302 MA728
D303 MA728
D304 MA728
TL301
TL302
TL303
TL304
TL305
TL306
TL307
TL309
CL305
CAM -8V
CAM 18V
CAM 9V
CAM 3.5V
CAM 5V
K-LINE
(TO LUMI/CHRO & HA/Page : 3-58)
FP301
(A)
18 R・YO
17 B・YO
16 YO
15 GND ANA
14 REC Y CNT
13 REC C CNT
12 CAM TEST
11 SIO
10 ———
9 ———
8 CAM CLOCK
7 CAM RESET
6 VREF Ⓗ
5 ZOOM AD
4 VREF Ⓛ
3 REC A CNT
2 PCBM (R・Y)
1 PCBM (B・Y)
TO FP3003 (B・1)
(TO POWER / Page : 3-78, B-7)
FP304
(B)
1 ——— B1002・1
2 ——— B1002・18
3 NOREG GND B1002・2
4 NOREG GND B1002・17
5 NOREG B1002・3
6 NOREG B1002・16
7 CAM 9V B1002・4
8 CAM 9V B1002・15
9 CAM 5V B1002・5
10 CAM 5V B1002・14
11 GND ANA B1002・6
12 GND ANA B1002・13
13 CAM 3.5V B1002・7
14 CAM 3.5V B1002・12
15 GND DIGI B1002・8
16 GND DIGI B1002・11
17 CAM -8V B1002・9
18 CAM 18V B1002・10
(TO EVR
B302
(F)
1 CAM CLOCK
2 SIO
3 VD
4 Y
5 CDS OUT
6 AD OUT
7 VREF Ⓗ
8 VREF +T
9 FNO
10 WIDE
11 IRIS OPEN
12 RESET
13 GND (ANA)
14 CAM 5V
15 TELE
16 Z.ENC 1
17 VREF - T
18 VREF Ⓛ
19 SUB
20 AGC OUT
21 ———
22 ———
23 CAM TEST
24 GND (DIGI)
G
F
E
D
C
B
A
27
28
29
30
31
32
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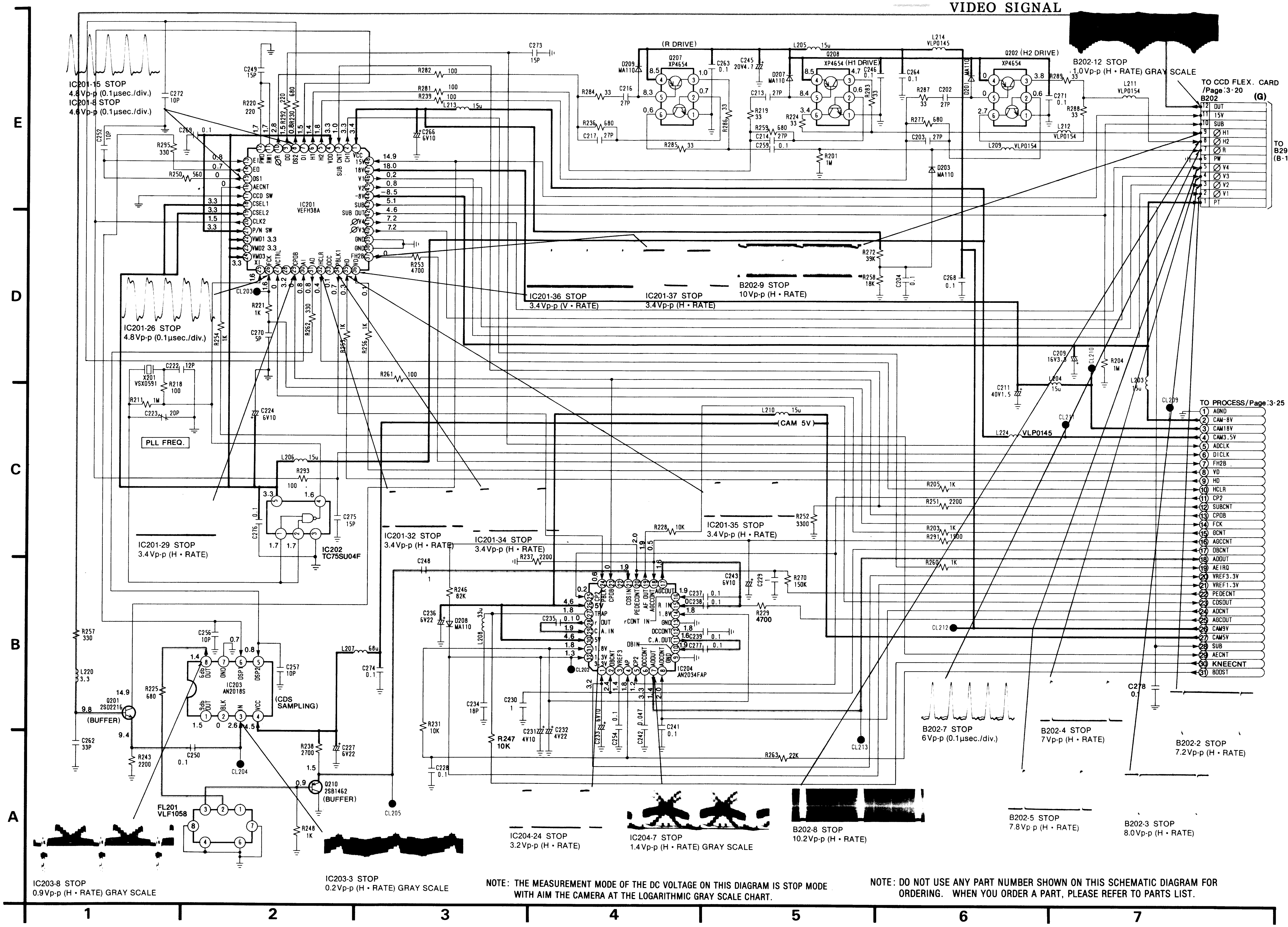
34
35
36
37

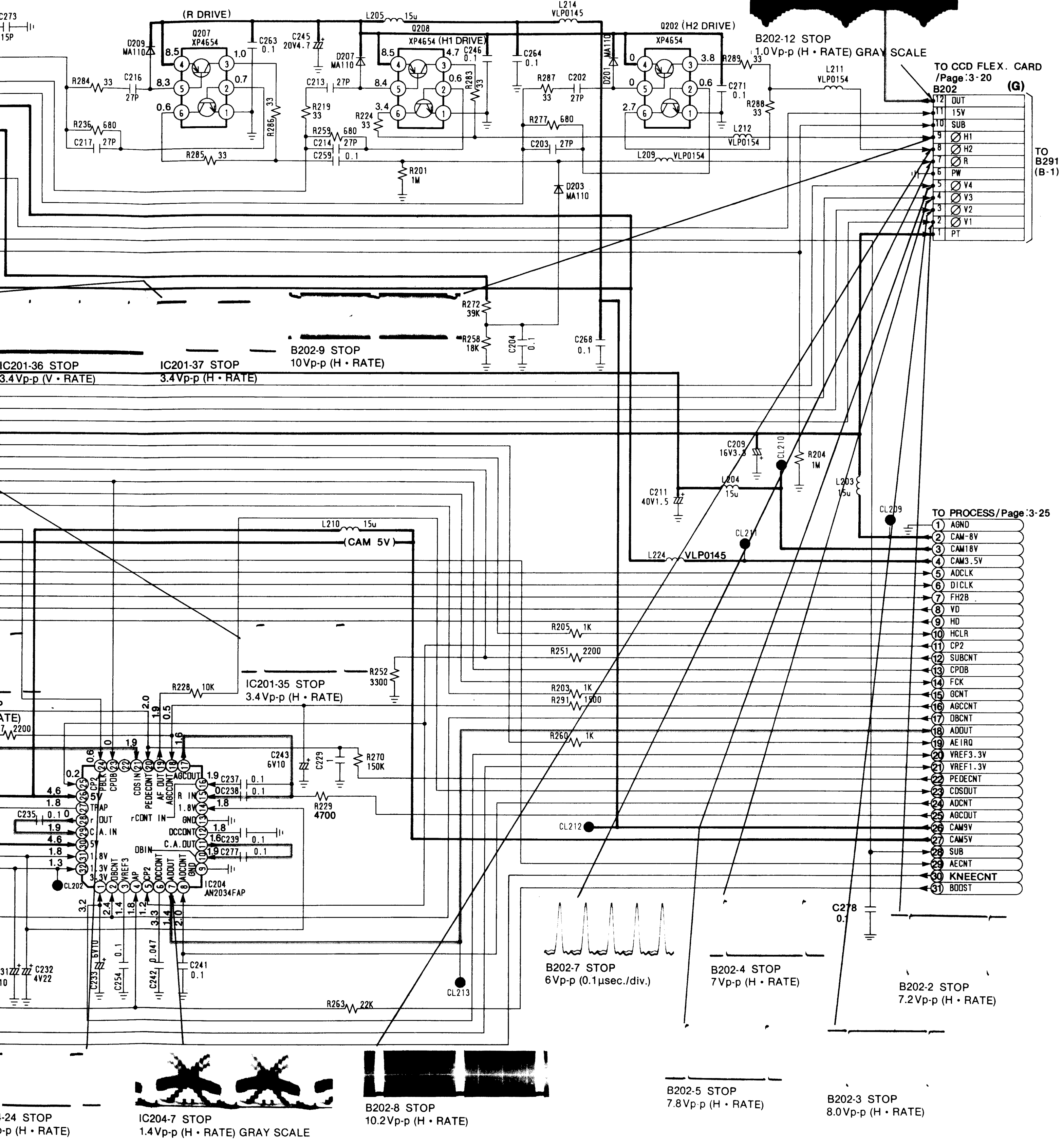
Next Page:
SENSOR Section

3-13. SENSOR SCHEMATIC DIAGRAM


[redacted]
VIDEO SIGNAL
IC201-15 STOP
4.8Vp-p (0.1μsec./div.)
IC201-8 STOP
4.6Vp-p (0.1μsec./div.)
IC201-26 STOP
4.8Vp-p (0.1μsec./div.)
IC201
VEFH38A
PLL FREQ.
X201
VSX0591
IC201-29 STOP
3.4Vp-p (H • RATE)
IC202
TC75SU04F
IC201-32 STOP
3.4Vp-p (H • RATE)
IC201-34 STOP
3.4Vp-p (H • RATE)
IC201-35 STOP
3.4Vp-p (H • RATE)
IC201-36 STOP
3.4Vp-p (V • RATE)
IC201-37 STOP
3.4Vp-p (H • RATE)
B202-9 STOP
10Vp-p (H • RATE)
(R DRIVE)
Q207
XP4654
Q208
XP4654 (H1 DRIVE)
Q202 (H2 DRIVE)
XP4654
B202-12 STOP
1.0Vp-p (H • RATE) GRAY SCALE
TO CCD FLEX. CARD
/Page 3-20
B202
(G)
12 OUT
11 15V
10 SUB
9 ØH1
8 ØH2
7 ØR
6 PW
5 ØV4
4 ØV3
3 ØV2
2 ØV1
1 PT
TO
B291
(B-1)
TO PROCESS/Page 3-25
① AGND
② CAM-8V
③ CAM18V
④ CAM3.5V
⑤ ADCLK
⑥ DICLK
⑦ FH2B
⑧ VD
⑨ HD
⑩ HCLR
⑪ CP2
⑫ SUBCNT
⑬ CPOB
⑭ FCK
⑮ GCNT
⑯ AGCCNT
⑰ DBCNT
⑱ ADOUT
⑲ AEIRQ
⑳ VREF3.3V
㉑ VREF1.3V
㉒ PEDECNT
㉓ CDSOUT
㉔ ADCNT
㉕ AGCOUT
㉖ CAM9V
㉗ CAM5V
㉘ SUB
㉙ AECNT
㉚ KNEECNT
㉛ BOOST
(CAM 5V)
IC204
AN2034FAP
IC203
AN2018S
(CDS SAMPLING)
Q201
2SD2216
(BUFFER)
Q210
2SB1462
(BUFFER)
FL201
VLF1058
B202-7 STOP
6Vp-p (0.1μsec./div.)
B202-4 STOP
7Vp-p (H • RATE)
B202-2 STOP
7.2Vp-p (H • RATE)
B202-5 STOP
7.8Vp p (H • RATE)
B202-3 STOP
8.0Vp-p (H • RATE)
B202-8 STOP
10.2Vp-p (H • RATE)
IC204-7 STOP
1.4Vp-p (H • RATE) GRAY SCALE
IC204-24 STOP
3.2Vp-p (H • RATE)
IC203-3 STOP
0.2Vp-p (H • RATE) GRAY SCALE
IC203-8 STOP
0.9Vp-p (H • RATE) GRAY SCALE
A
B
C
D
E
1
2
3
4
5
6
7

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE WITH AIM THE CAMERA AT THE LOGARITHMIC GRAY SCALE CHART.

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

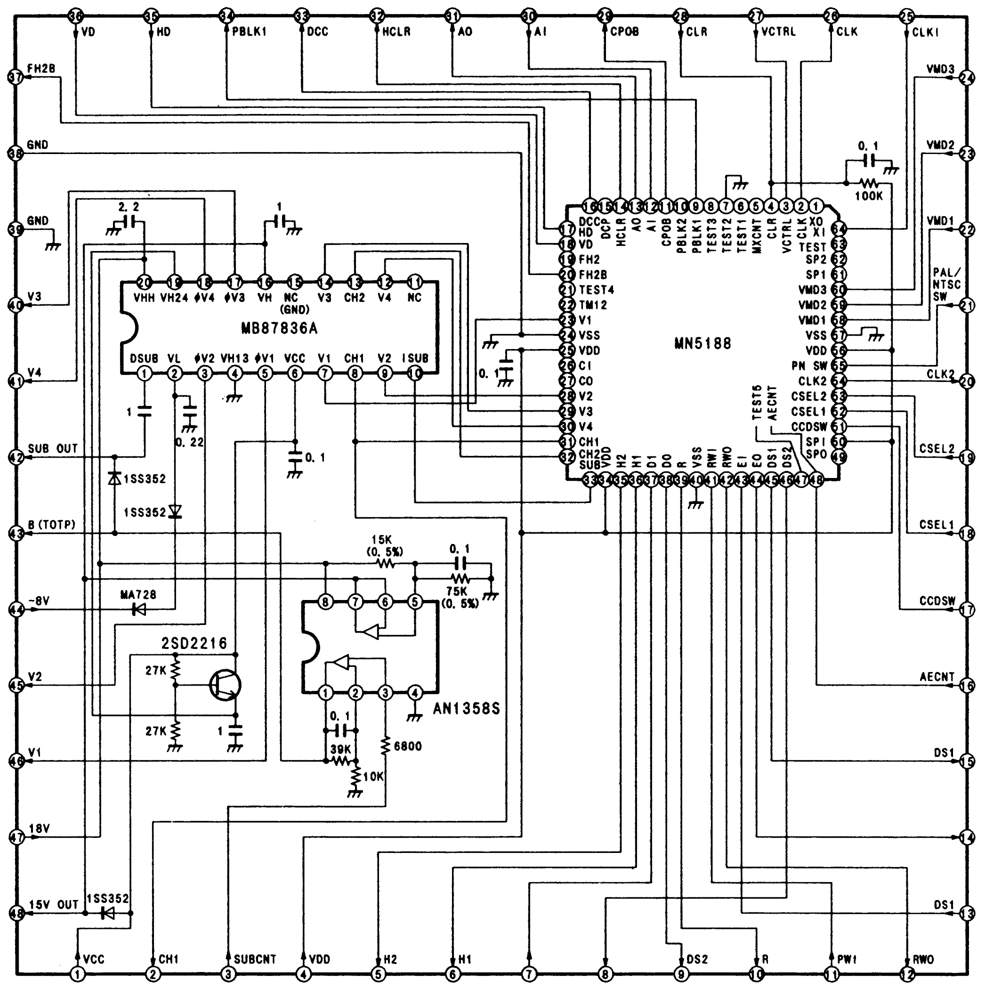

(R DRIVE)
Q207 XP4654
Q208 XP4654 (H1 DRIVE)
Q202 (H2 DRIVE) XP4654
B202-12 STOP
1.0Vp-p (H • RATE) GRAY SCALE
TO CCD FLEX. CARD /Page 3-20
B202 (G)
12 OUT
11 15V
10 SUB
9 ØH1
8 ØH2
7 ØR
6 PW
5 ØV4
4 ØV3
3 ØV2
2 ØV1
1 PT
TO B291 (B-1)
B202-9 STOP
10Vp-p (H • RATE)
IC201-36 STOP
3.4Vp-p (V • RATE)
IC201-37 STOP
3.4Vp-p (H • RATE)
TO PROCESS/Page 3-25
1 AGND
2 CAM-8V
3 CAM18V
4 CAM3.5V
5 ADCLK
6 DICLK
7 FH2B
8 VD
9 HD
10 HCLR
11 CP2
12 SUBCNT
13 CPOB
14 FCK
15 OCNT
16 AGCCNT
17 OBCNT
18 ADOUT
19 AEIRQ
20 VREF3.3V
21 VREF1.3V
22 PEDECNT
23 CDSOUT
24 ADCNT
25 AGCOUT
26 CAM9V
27 CAM5V
28 SUB
29 AECNT
30 KNEECNT
31 BOOST
(CAM 5V)
IC201-35 STOP
3.4Vp-p (H • RATE)
IC204 AN2034FAP
CL202
CL209
CL210
CL211
CL212
CL213
B202-7 STOP
6Vp-p (0.1μsec./div.)
B202-4 STOP
7Vp-p (H • RATE)
B202-2 STOP
7.2Vp-p (H • RATE)
B202-8 STOP
10.2Vp-p (H • RATE)
B202-5 STOP
7.8Vp-p (H • RATE)
B202-3 STOP
8.0Vp-p (H • RATE)
IC204-7 STOP
1.4Vp-p (H • RATE) GRAY SCALE
-24 STOP
-p (H • RATE)

MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE
H AIM THE CAMERA AT THE LOGARITHMIC GRAY SCALE CHART.

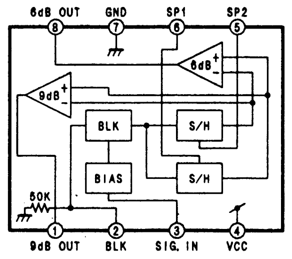
NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

IC BLOCK

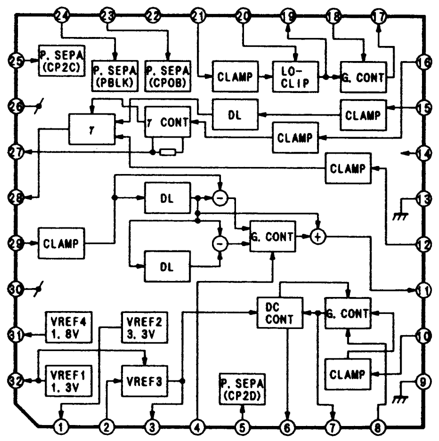
IC201 (VEFH38A)


VD
HD
PBLK1
DCC
HCLR
AO
AI
CPOB
CLR
VCTRL
CLK
CLKI
FH2B
GND
GND
V3
V4
SUB OUT
8 (TOTP)
-8V
V2
V1
18V
15V OUT
VMD3
VMD2
VMD1
PAL/NTSC SW
CLK2
CSEL2
CSEL1
CCDSW
AECNT
DS1
DS1
MB87836A
MN5188
2SD2216
AN1358S
1SS352
MA728
VCC
CH1
SUBCNT
VDD
H2
H1
DS2
R
PWI
RWO

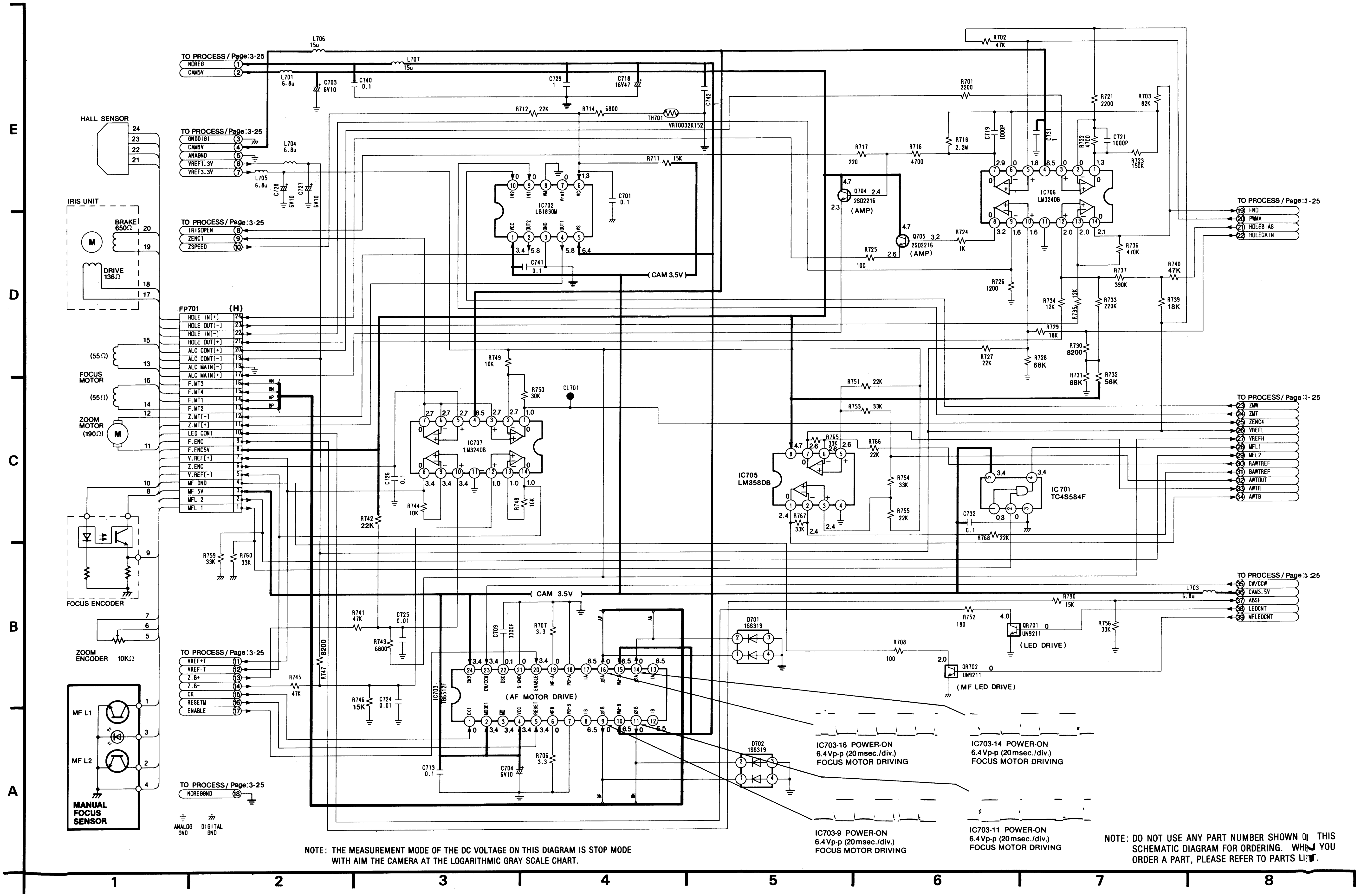
IC203 (AN2018S)


6dB OUT
GND
SP1
SP2
9dB
6dB
BLK
S/H
BIAS
S/H
50K
9dB OUT
BLK
SIG. IN
VCC

IC204 (AN2034FAP)


P. SEPA (CP2C)
P. SEPA (PBLK)
P. SEPA (CPOB)
CLAMP
LO-CLIP
G. CONT
T
T CONT
DL
CLAMP
CLAMP
CLAMP
DL
G. CONT
DL
CLAMP
VREF4 1.8V
VREF2 3.3V
DC CONT
G. CONT
VREF1 1.3V
VREF3
P. SEPA (CP2D)
CLAMP

3-14. LENS DRIVE SCHEMATIC DIAGRAM



E
D
C
B
A
1
2
3
4
5
6
7
8
TO PROCESS / Page:3-25
NDREG
CAM5V
HALL SENSOR
GNDDIGI
CAM5V
ANAGND
VREF1.3V
VREF3.3V
IRIS UNIT
BRAKE 650Ω
DRIVE 136Ω
IRISOPEN
ZENC1
ZSPEED
FP701
HOLE IN(+)
HOLE OUT(-)
HOLE IN(-)
HOLE OUT(+)
ALC CONT(+)
ALC CONT(-)
ALC MAIN(-)
ALC MAIN(+)
F.MT3
F.MT4
F.MT1
F.MT2
Z.MT(-)
Z.MT(+)
LED CONT
F.ENC
F.ENC5V
V.REF(+)
Z.ENC
V.REF(-)
MF GND
MF 5V
MFL 2
MFL 1
FOCUS MOTOR
ZOOM MOTOR (190Ω)
FOCUS ENCODER
ZOOM ENCODER 10KΩ
MANUAL FOCUS SENSOR
MF L1
MF L2
VREF+T
VREF-T
Z.B+
Z.B-
CK
RESETM
ENABLE
NDREGGND
ANALOG GND
DIGITAL GND
L706 15u
L707 15u
L701 6.8u
C703 6V10
C740 0.1
C729 1
C718 16V47
R712 22K
R714 6800
TH701
VRT0032K152
C742
R711 15K
IC702 LB1830M
C701 0.1
C741 0.1
CAM 3.5V
IC707 LM324DB
R749 10K
R750 30K
CL701
C726 0.1
R744 10K
R748 10K
R742 22K
R759 33K
R760 33K
R741 47K
C725 0.01
R743 6800
R747 8200
R745 47K
R746 15K
C724 0.01
C709 3300P
R707 3.3
IC703 TB6512F
(AF MOTOR DRIVE)
C713 0.1
C704 6V10
R706 3.3
D701 1SS319
D702 1SS319
R702 47K
R701 2200
R721 2200
R703 82K
R718 2.2M
C719 1000P
C731 1
R722 4700
C721 1000P
R723 150K
R717 220
R716 4700
Q704 2SD2216 (AMP)
Q705 2SD2216 (AMP)
R725 100
R724 1K
IC706 LM324DB
R736 470K
R726 1200
R737 390K
R740 47K
R739 18K
R734 12K
R735 12K
R733 220K
R729 18K
R727 22K
R728 68K
R730 8200
R731 68K
R732 56K
FND
PWMA
HOLEBIAS
HOLEGAIN
R751 22K
R753 33K
R765 33K
R766 22K
IC705 LM358DB
R754 33K
R755 22K
R767 33K
IC701 TC4S584F
C732 0.1
R768 22K
ZMW
ZMT
ZENC4
VREFL
VREFH
MFL1
MFL2
RAWTREF
BAWTREF
AWTOUT
AWTR
AWTB
L703 6.8u
R790 15K
CW/CCW
CAM3.5V
ABSF
LEDCNT
MFLEDCNT
R752 180
QR701 UN9211 (LED DRIVE)
R756 33K
R708 100
QR702 UN9211 (MF LED DRIVE)
IC703-16 POWER-ON
6.4Vp-p (20msec./div.)
FOCUS MOTOR DRIVING
IC703-14 POWER-ON
6.4Vp-p (20msec./div.)
FOCUS MOTOR DRIVING
IC703-9 POWER-ON
6.4Vp-p (20msec./div.)
FOCUS MOTOR DRIVING
IC703-11 POWER-ON
6.4Vp-p (20msec./div.)
FOCUS MOTOR DRIVING

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE WITH AIM THE CAMERA AT THE LOGARITHMIC GRAY SCALE CHART.

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

CAMERA MAIN C.B.A.

Integrated Circuit

IC201	D-13
IC202	D-2
IC203	D-3
IC204	D-3
IC301	C-12
IC302	B-12
IC303	B-3
IC304	C-11
IC305	B-2
IC306	C-4
IC307	B-4
IC308	B-6
IC309	C-2
IC310	C-4
IC311	B-11
IC313	C-10
IC314	B-11
IC315	C-3
IC701	C-7
IC702	B-7
IC703	B-8
IC705	B-7
IC706	B-9
IC707	A-8

Transistor

Q302	B-1
Q303	B-14
Q705	B-9
Q704	B-9
Q301	C-1
Q210	D-12
Q208	D-2
Q207	D-2
Q202	D-2
Q201	D-3

Transistor & Resistor

QR301	B-10
QR701	B-10
QR702	B-9

Diode

D201	D-2
D203	D-2
D207	D-2
D208	C-13
D209	D-2
D301	D-11
D302	C-1
D303	B-10
D304	D-12
D701	B-8
D702	A-9

Test Point

CL202	C-13
CL203	D-13
CL204	D-12
CL205	D-12
CL209	D-14
CL210	D-14
CL211	D-14
CL212	D-14
CL213	C-12
CL301	B-10
CL302	B-11
CL303	B-11
CL304	B-11
CL305	C-12
CL306	C-14
CL307	C-4
CL308	D-10
CL309	B-10
CL310	C-13
CL311	C-14
CL312	C-14
CL701	A-9
CLA	C-14
CLB	C-14
TL301	C-14
TL302	C-14
TL303	C-14
TL304	C-14
TL305	C-14
TL306	C-14
TL307	C-14
TL309	C-14

Adjustment

C223	D-13

Thermistor

TH701	B-7

Connector

B202	D-12
B301	A-10
B302	C-12
FP301	B-14
FP304	D-14
FP701	C-6
P302	B-7

Crystal Oscillator

X201	D-14
X301	B-7
X302	D-11

Filter

FL201	D-12

Coil

L203	D-1
L204	C-1
L205	D-2
L206	D-1
L207	D-3
L208	D-3
L209	D-3
L210	D-3
L211	D-3
L212	D-3
L213	D-1
L214	D-2
L220	D-3
L224	D-1
L225	D-1
L303	C-3
L304	C-3
L305	C-2
L306	C-2
L307	B-10
L308	B-12
L309	B-12
L310	B-12
L313	D-11
L314	C-2
L315	B-13
L316	B-14
L317	B-14
L318	D-4
L319	B-5
L320	B-5
L321	B-14
L322	A-6
L323	B-11
L324	C-13
L325	B-10
L326	B-10
L329	A-8
L330	A-8
L331	A-9
L332	C-2
L701	A-9
L703	C-7
L704	B-10
L705	B-10
L706	A-9
L707	C-7

Capacitor

C202	D-2
C203	D-2
C204	D-2
C209	D-1
C211	D-1
C213	D-2
C214	C-2
C216	D-2
C217	C-2
C222	D-2
C224	D-1
C227	D-3
C228	C-12
C229	D-13
C230	C-3
C231	D-12
C232	D-13
C233	C-12
C234	D-3
C235	D-3
C236	D-12
C237	D-4
C238	D-4
C239	D-12
C241	C-3
C242	C-12
C243	D-12
C245	D-2
C246	D-2
C248	D-4
C249	C-2
C250	D-3
C252	C-2
C254	C-12
C256	D-2
C257	D-2
C259	D-2
C262	D-3
C263	D-2
C264	D-2
C266	D-2
C268	D-2
C269	D-2
C270	D-2
C271	D-2
C272	D-2
C273	C-2
C274	D-3
C275	D-2
C276	D-2
C277	C-3
C278	D-3
C301	C-3
C302	C-2
C304	C-3
C305	C-2
C306	C-13
C307	C-3
C308	C-12
C309	C-11
C310	B-12
C314	B-14
C315	C-3
C316	B-2
C317	B-1
C318	B-1
C319	B-14
C320	B-1
C321	B-13
C322	B-1
C323	B-14
C324	D-4
C325	C-3
C326	C-3
C327	B-11
C328	C-1
C330	B-5
C331	B-5
C332	B-5
C333	C-10
C334	C-10
C335	B-10
C336	C-14
C337	C-2
C338	C-14
C339	C-14
C340	C-14
C341	B-11
C342	D-1
C344	C-14
C345	B-14
C348	B-12
C349	B-1
C350	D-1
C351	B-6
C352	B-7
C353	B-10
C354	D-1
C355	D-1
C356	D-1
C357	C-14
C358	B-9
C359	B-9
C360	D-5
C361	B-13
C701	B-7
C703	A-9
C704	B-8
C709	B-8
C713	B-8
C718	C-9
C719	B-9
C721	B-9
C724	A-7
C725	A-7
C726	A-7
C727	B-10
C728	B-10
C729	B-7
C731	B-9
C732	C-7
C740	C-7
C741	B-7
C742	B-7

Resistor

R201	D-2
R203	D-2
R204	D-12
R205	D-3
R211	D-2
R218	D-2
R219	D-2
R220	C-2
R221	D-2
R224	D-2
R225	D-12
R228	D-3
R229	D-4
R230	D-2
R231	D-12
R236	C-2
R237	D-3
R238	D-3
R239	D-2
R243	D-3
R246	C-12
R247	D-3
R248	D-12
R250	D-1
R251	C-13
R252	C-13
R253	D-3
R254	C-2
R255	D-2
R256	D-2
R257	D-3
R258	D-2
R259	C-2
R260	C-2
R261	D-2
R262	D-2
R263	C-3
R270	D-12
R272	D-2
R277	D-2
R281	C-2
R282	C-2
R283	D-2
R284	C-2
R285	D-2
R286	D-2
R287	D-2
R288	D-2
R289	D-2
R291	D-11
R292	C-2
R293	D-2
R295	D-2
R301	C-3
R302	B-12
R303	B-11
R304	C-12
R305	C-3
R306	C-3
R307	C-3
R308	B-14
R309	B-13
R310	B-14
R311	B-14
R312	B-1
R313	B-14
R314	C-12
R316	C-13
R317	C-10
R318	B-5
R321	C-4
R322	B-6
R323	B-6
R324	A-6
R325	A-6
R326	C-3
R328	B-10
R330	C-1
R331	B-10
R332	C-10
R333	B-10
R334	B-10
R335	B-3
R336	C-14
R337	C-14
R338	C-13
R339	C-14
R340	C-2
R341	A-8
R342	B-4
R343	B-3
R344	B-1
R346	B-5
R347	B-5
R348	C-5
R349	C-5
R350	C-5
R351	B-13
R352	B-10
R353	B-10
R355	B-4
R356	B-4
R357	B-3
R358	B-11
R359	C-4
R360	C-4
R361	D-4
R362	B-10
R363	B-5
R364	B-10
R367	C-1
R370	D-5
R372	C-2
R373	C-1
R374	B-1
R375	B-1
R376	B-1
R377	C-1
R378	B-1
R380	B-1
R381	B-14
R382	C-13
R383	B-14
R384	B-14
R385	B-14
R389	A-6
R390	D-11
R391	C-3
R392	B-2
R393	B-14
R701	A-9
R702	B-9
R703	A-9
R706	B-8
R707	B-8
R708	B-9
R711	B-7
R712	B-7
R714	B-7
R716	B-9
R717	B-9
R718	A-9
R719	B-9
R721	B-9
R722	B-9
R723	B-9
R724	B-9
R725	B-9
R726	B-9
R727	B-9
R728	B-9
R729	B-9
R730	B-9
R731	B-9
R732	B-9
R733	B-9
R734	B-9
R735	B-9
R736	B-9
R737	B-9
R738	B-9
R739	B-9
R740	B-9
R741	A-7
R742	A-7
R743	A-7
R744	A-9
R745	A-7
R746	A-7
R747	A-7
R748	A-9
R749	A-7
R750	A-7
R751	B-7
R752	B-9
R753	B-7
R754	B-7
R755	B-7
R756	B-9
R759	B-7
R760	B-7
R765	B-7
R766	B-7
R767	B-7
R768	B-7
R790	C-9

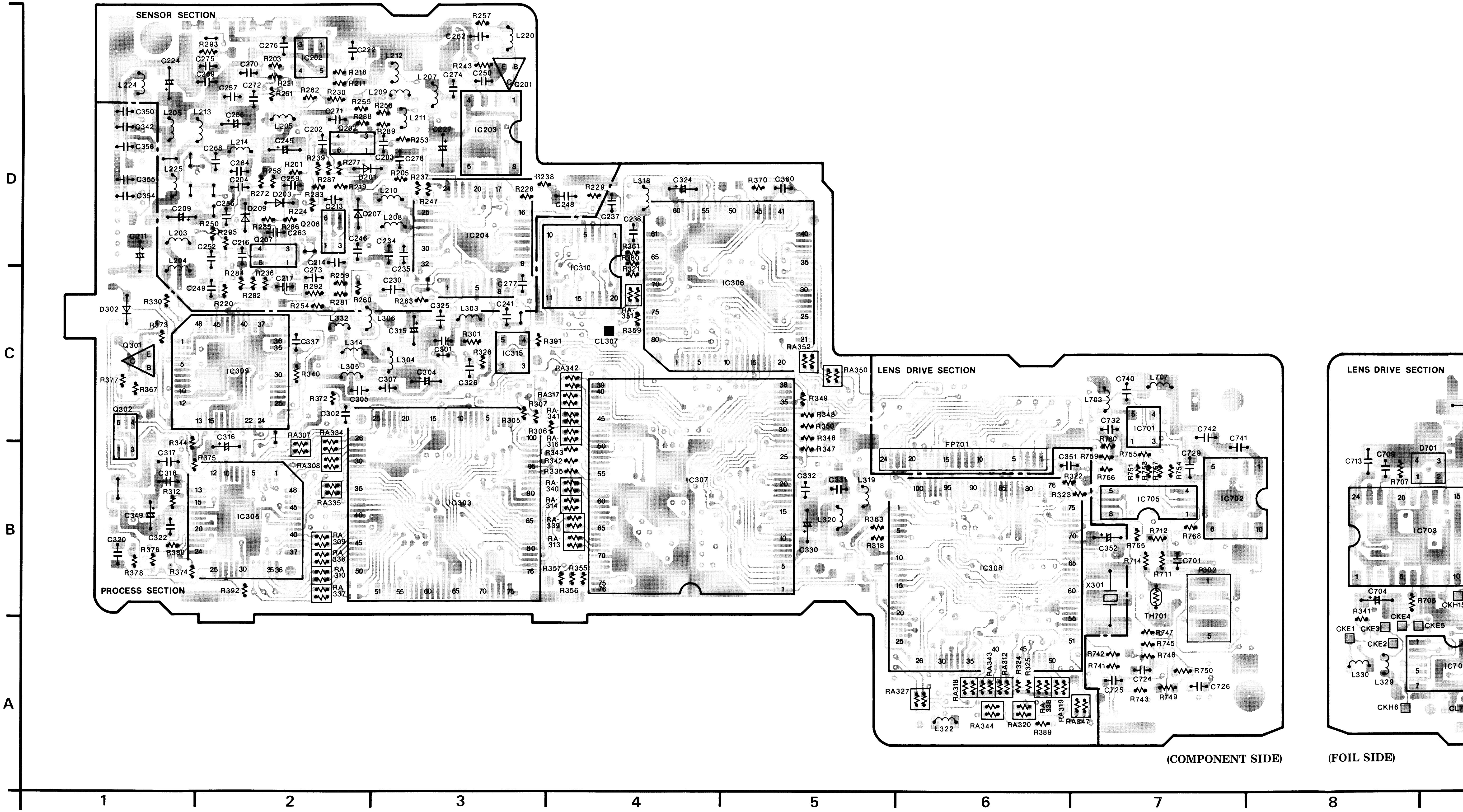
Resistor Array

RA301	C-13
RA302	C-12
RA303	B-13
RA304	B-13
RA305	B-13
RA306	B-13
RA307	B-2
RA308	B-2
RA309	B-2
RA310	B-2
RA312	A-6
RA313	B-3
RA314	B-3
RA316	B-4
RA317	C-3
RA318	A-6
RA319	A-6
RA320	A-6
RA326	B-10
RA327	A-6
RA328	C-13
RA329	C-12
RA330	B-13
RA331	B-13
RA332	B-13
RA333	B-13
RA334	B-2
RA335	B-2
RA336	B-2
RA337	B-2
RA338	A-6
RA339	B-3
RA340	B-3
RA341	C-4
RA342	C-4
RA343	A-6
RA344	A-6
RA347	A-6
RA350	C-5
RA351	C-4
RA352	C-5

ADDRESS INFORMATION

Back Page:
LENS DRIVE Section

3-15. CAMERA MAIN [SENSOR, LENS DRIVE, PROCESS Section] C.B.A. (VEP23169A)


SENSOR SECTION
PROCESS SECTION
LENS DRIVE SECTION
LENS DRIVE SECTION
IC202
IC203
IC204
IC303
IC305
IC306
IC307
IC308
IC309
IC310
IC315
IC701
IC702
IC703
IC705
Q201
Q202
Q207
Q208
Q301
Q302
D201
D203
D207
D209
D302
D701
FP701
X301
TH701
P302
CL307
L203
L204
L205
L207
L208
L209
L210
L211
L212
L213
L214
L220
L224
L225
L303
L304
L305
L306
L314
L318
L319
L320
L322
L329
L330
L332
L703
L707
C202
C203
C204
C209
C211
C213
C214
C216
C217
C222
C224
C227
C230
C234
C235
C237
C238
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C245
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C248
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C252
C256
C257
C259
C262
C263
C264
C266
C268
C269
C270
C271
C272
C273
C274
C275
C276
C277
C278
C301
C302
C304
C305
C307
C315
C316
C317
C318
C320
C322
C324
C325
C326
C330
C331
C332
C337
C342
C349
C350
C351
C352
C354
C355
C356
C360
C701
C704
C709
C713
C724
C725
C726
C729
C732
C740
C741
C742
R201
R203
R205
R211
R218
R219
R220
R221
R224
R228
R229
R230
R236
R237
R238
R239
R243
R247
R250
R253
R254
R255
R256
R257
R258
R259
R260
R261
R262
R263
R268
R272
R277
R281
R282
R283
R284
R285
R286
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R289
R292
R293
R295
R301
R305
R306
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R312
R318
R321
R322
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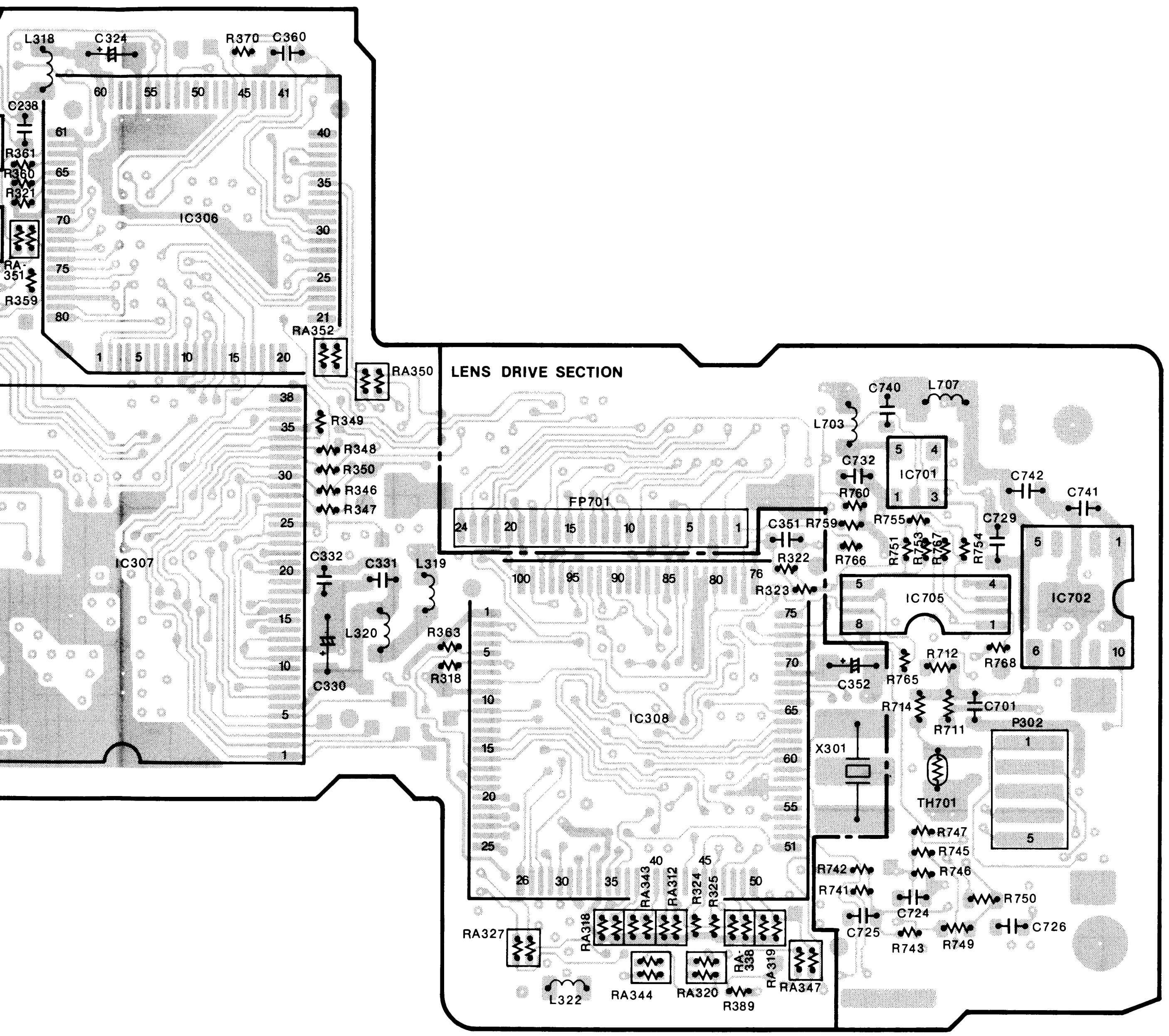
R324
R325
R326
R330
R340
R341
R344
R346
R347
R348
R349
R350
R355
R356
R357
R359
R360
R361
R363
R367
R370
R372
R373
R374
R375
R376
R377
R378
R380
R389
R391
R392
R707
R708
R711
R712
R714
R741
R742
R743
R745
R746
R747
R749
R750
R751
R753
R754
R755
R757
R759
R760
R765
R766
R768
RA307
RA308
RA309
RA310
RA312
RA313
RA314
RA316
RA317
RA318
RA319
RA320
RA327
RA334
RA335
RA336
RA337
RA338
RA339
RA340
RA341
RA342
RA343
RA344
RA347
RA350
RA351
RA352
CKE1
CKE2
CKE3
CKE4
CKE5
CKH6
E
B
C
D
C
B
A
1
2
3
4
5
6
7
8

(COMPONENT SIDE)

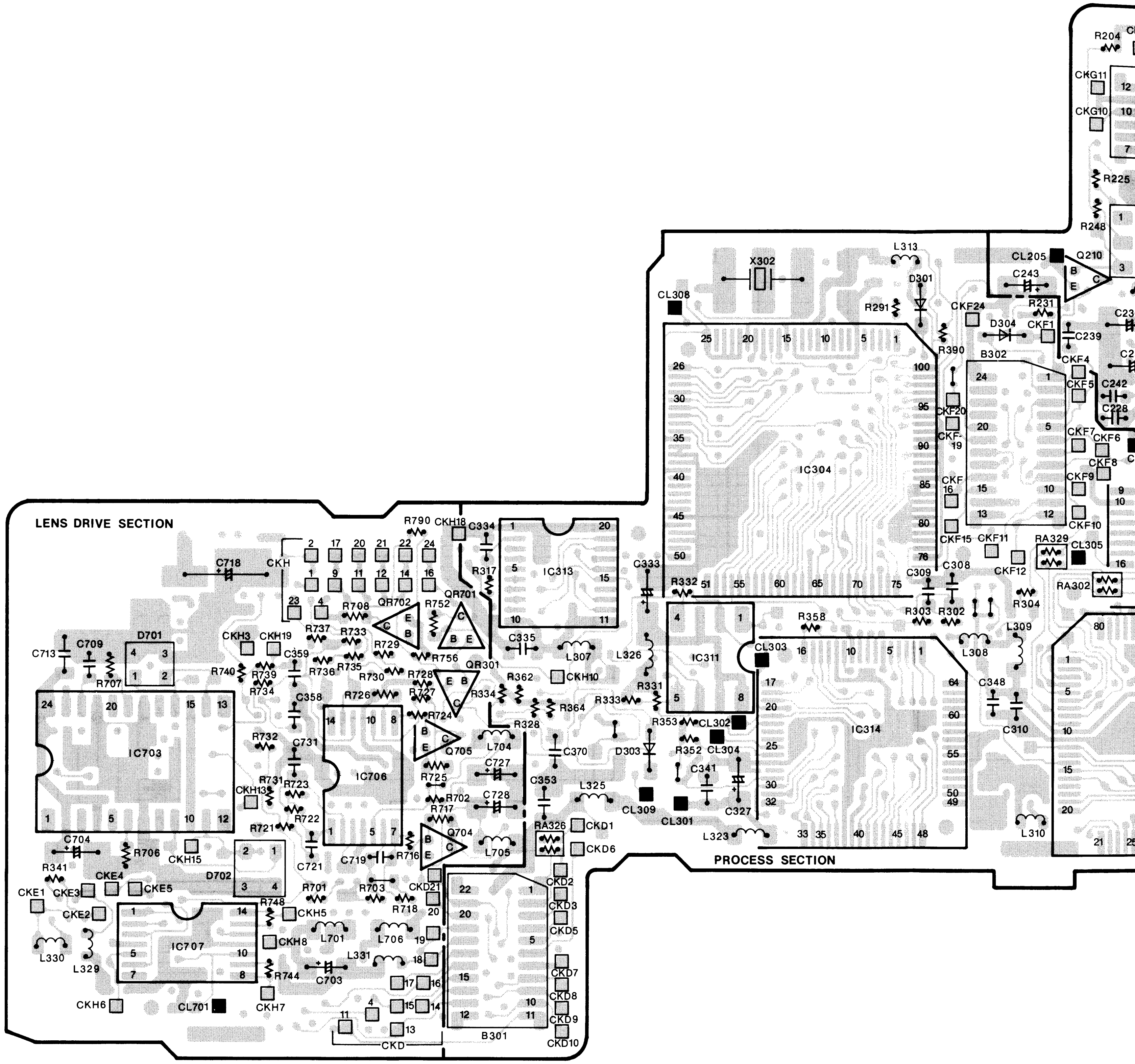
(FOIL SIDE)

.A. (VEP23169A)



LENS DRIVE SECTION
IC306
IC307
IC308
IC705
IC701
IC702
FP701
X301
TH701
P302
L318
C324
R370
C360
C238
RA352
RA350
L319
L320
C330
C331
C332
RA327
L322
RA344
RA320
RA347
R389
C352
C701
C725
C724
C726
R743
R749
R750
L703
L707
C740
C741
C742
C729

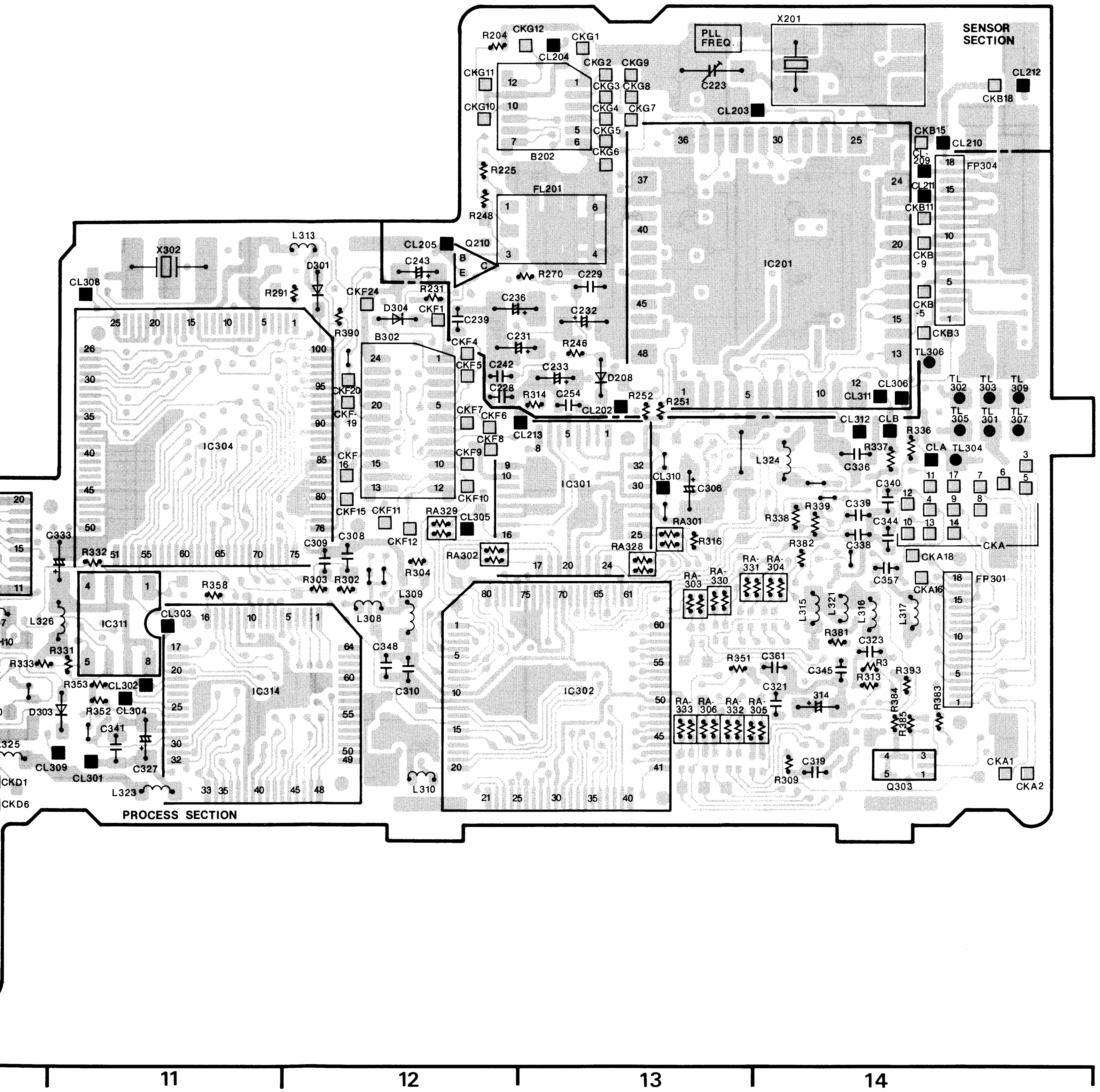
(COMPONENT SIDE)



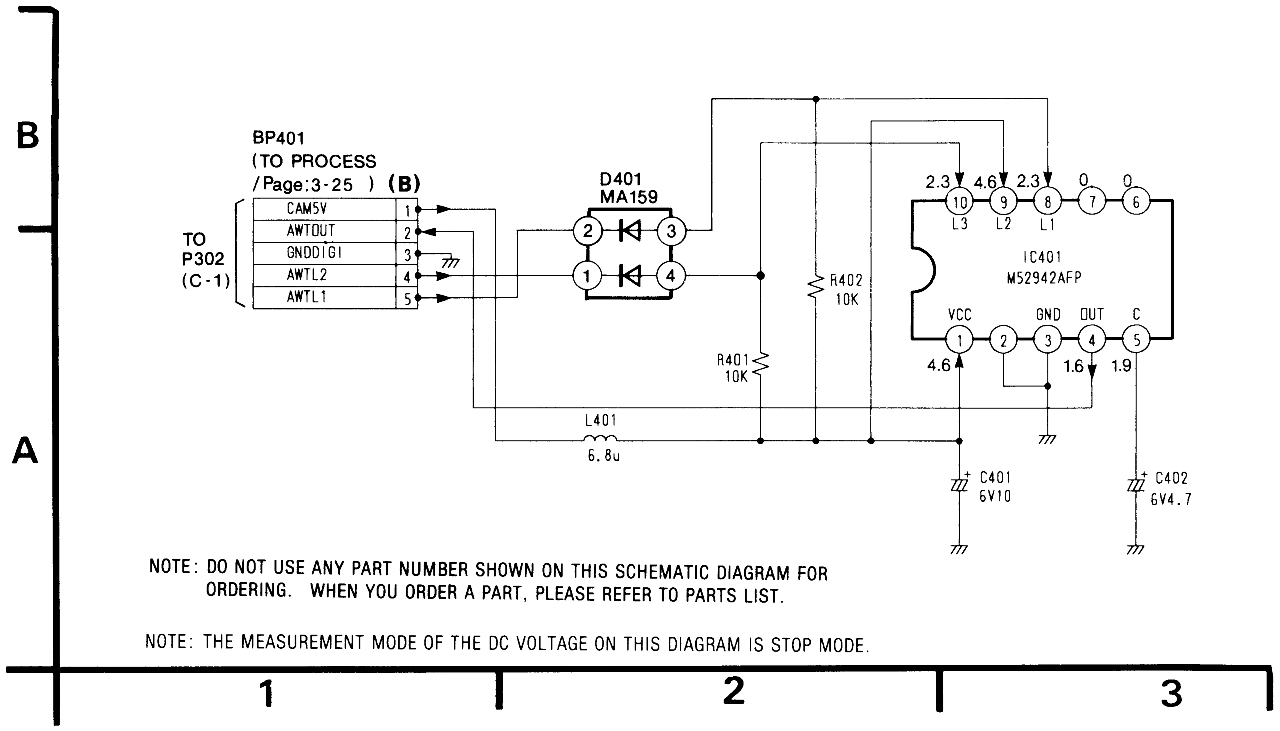
LENS DRIVE SECTION
PROCESS SECTION
IC703
IC706
IC707
IC313
IC311
IC314
IC304
B301
B302
D701
D702
D301
D303
D304
X302
QR701
QR702
QR301
Q704
Q705
Q210
CL701
CL301
CL302
CL303
CL304
CL305
CL308
CL309
CL205
L313
L323
L325
L326
L307
L308
L309
L310
L329
L330
L331
L701
L704
L705
L706
C718
C709
C713
C704
C703
C721
C719
C727
C728
C731
C334
C335
C333
C353
C370
C341
C327
C348
C310
C308
C309
C243
C239
C242
C228
RA326
RA329
RA302
CKD
CKH

(FOIL SIDE)

4 5 6 7 8 9 10 11 12


SENSOR SECTION
PROCESS SECTION
PLL FREQ.
X201
X302
IC201
IC301
IC302
IC304
IC311
IC314
FL201
B202
B302
FP301
FP304
Q210
Q303
11
12
13
14

3-16. AWT SCHEMATIC DIAGRAM

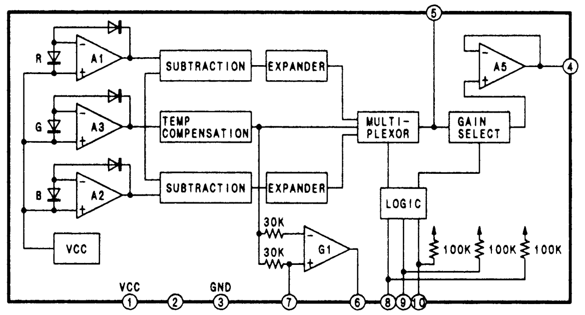

BP401
(TO PROCESS
/Page:3-25) (B)
TO
P302
(C-1)
CAM5V
AWTOUT
GNDDIGI
AWTL2
AWTL1
D401
MA159
R402
10K
R401
10K
L401
6.8u
IC401
M52942AFP
L3
L2
L1
VCC
GND
OUT
C
C401
6V10
C402
6V4.7
2.3
4.6
2.3
0
0
4.6
1.6
1.9
B
A
1
2
3

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

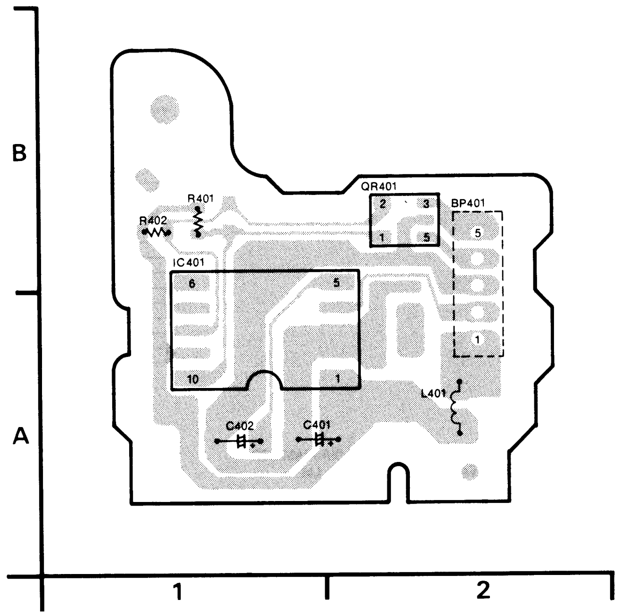
NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE.

IC BLOCK

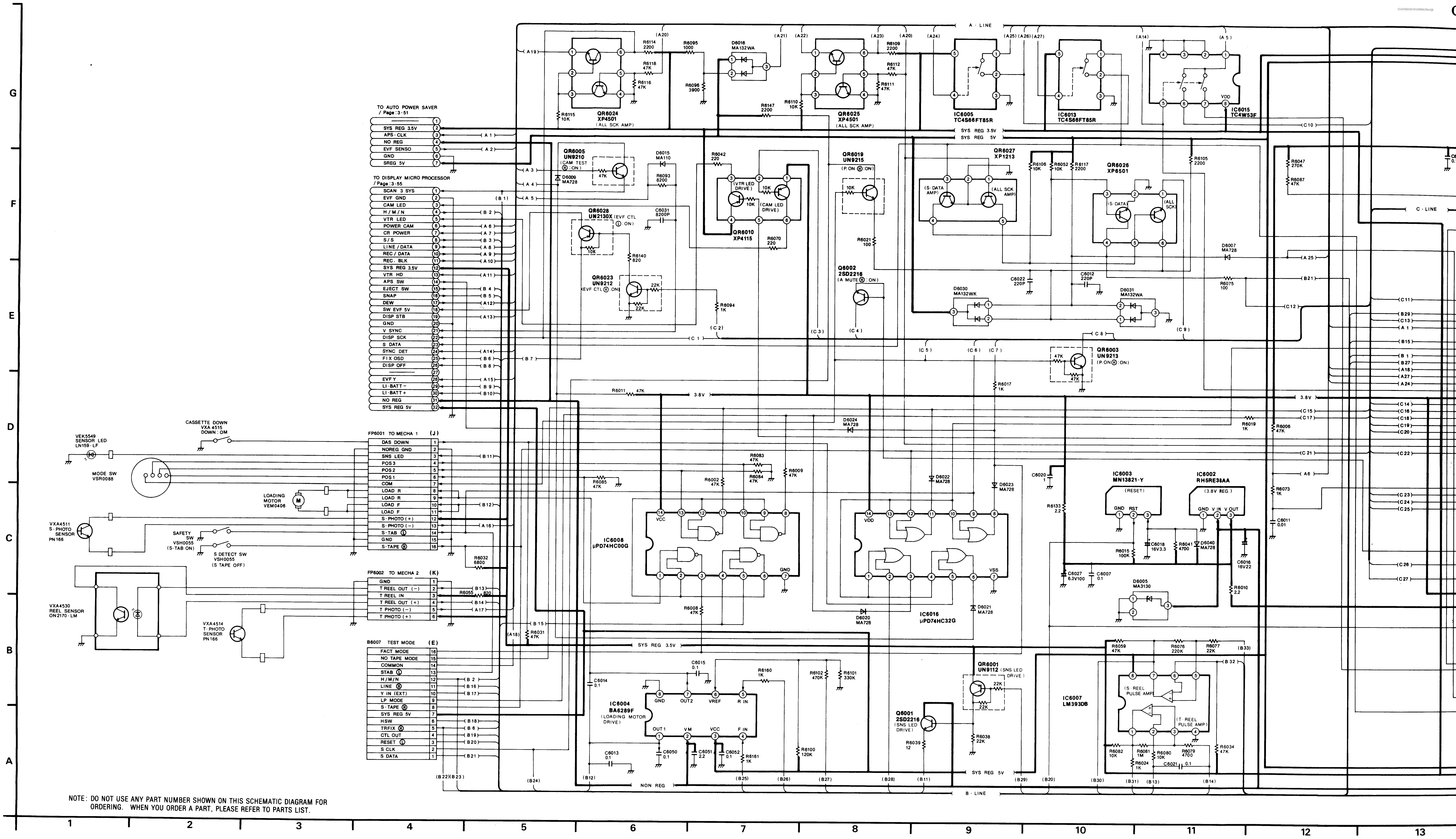
IC401 (M52942AFP)


R
G
B
A1
A2
A3
A5
G1
SUBTRACTION
EXPANDER
TEMP COMPENSATION
SUBTRACTION
EXPANDER
MULTI-PLEXOR
GAIN SELECT
LOGIC
VCC
30K
30K
100K
100K
100K
VCC
GND

3-17. AWT C.B.A. (VEP23179A)


B
A
1
2
QR401
BP401
R401
R402
IC401
L401
C402
C401

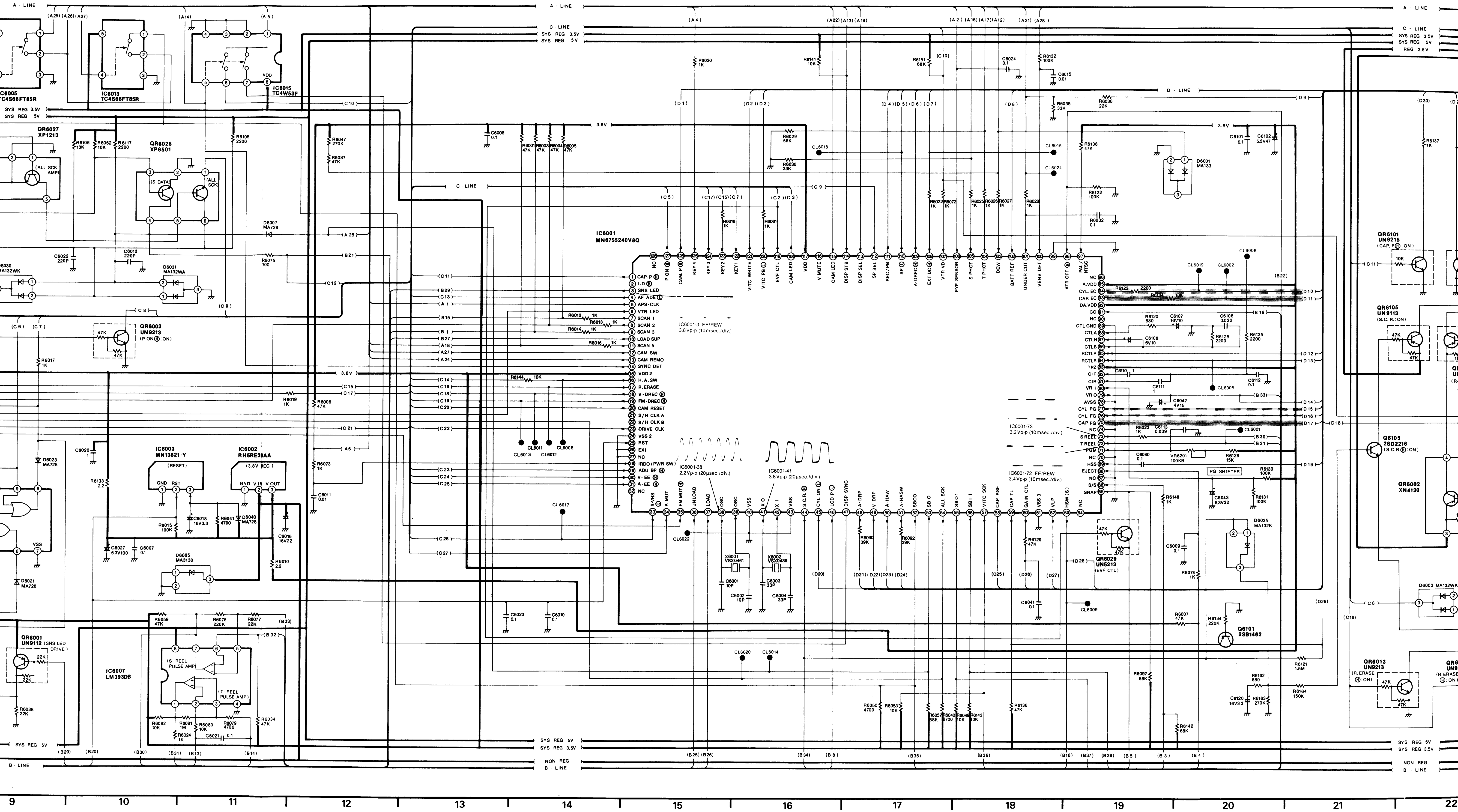
3-18. SYSTEM CONTROL & SERVO SCHEMATIC DIAGRAM


TO AUTO POWER SAVER / Page: 3-51
SYS REG 3.5V
APS-CLK
NO REG
EVF SENSO
GND
SREG 5V
TO DISPLAY MICRO PROCESSOR / Page: 3-55
SCAN 3 SYS
EVF GND
CAM LED
H/M/N
VTR LED
POWER CAM
CR POWER
S/S
LINE/DATA
REC/DATA
REC. BLK
SYS REG 3.5V
VTR HD
APS SW
EJECT SW
SNAP
DEW
SW EVF 5V
DISP STB
GND
V SYNC
DISP SCK
S DATA
SYNC DET
FIX OSD
DISP OFF
EVF Y
LI-BATT−
LI-BATT+
NO REG
SYS REG 5V
FP6001 TO MECHA 1 (J)
DAS DOWN
NOREG GND
SNS LED
POS 3
POS 2
POS 1
COM
LOAD R
LOAD R
LOAD F
LOAD F
S-PHOTO (+)
S-PHOTO (−)
S-TAB Ⓛ
GND
S-TAPE Ⓗ
FP6002 TO MECHA 2 (K)
GND
T REEL OUT (−)
T REEL IN
T REEL OUT (+)
T PHOTO (−)
T PHOTO (+)
B6007 TEST MODE (E)
FACT MODE
NO TAPE MODE
COMMON
STAB Ⓛ
H/M/N
LINE Ⓗ
Y IN (EXT)
LP MODE
S-TAPE Ⓗ
SYS REG 5V
HSW
TRFIX Ⓗ
CTL OUT
RESET Ⓛ
S CLK
S DATA
VEK5549 SENSOR LED LN159-LF
CASSETTE DOWN VXA 4515 DOWN: ON
MODE SW VSR0088
LOADING MOTOR VEM0406
VXA4511 S-PHOTO SENSOR PN166
SAFETY SW VSH0055 (S-TAB ON)
S DETECT SW VSH0055 (S TAPE OFF)
VXA4530 REEL SENSOR ON2170-LM
VXA4514 T-PHOTO SENSOR PN166
QR6024 XP4501 (ALL SCK AMP)
QR6025 XP4501 (ALL SCK AMP)
D6016 MA132WA
IC6005 TC4S66FT85R
IC6013 TC4S66FT85R
IC6015 TC4W53F
QR6005 UN9210 (CAM TEST Ⓗ:ON)
D6009 MA728
D6015 MA110
QR6028 UN2130X (EVF CTL Ⓛ:ON)
QR6023 UN9212 (EVF CTL Ⓗ:ON)
QR6010 XP4115 (VTR LED DRIVE) (CAM LED DRIVE)
QR6019 UN9215 (P.ON Ⓗ:ON)
Q6002 2SD2216 (A MUTE Ⓗ:ON)
QR6027 XP1213 (S-DATA AMP) (ALL SCK AMP)
QR6026 XP6501 (S-DATA) (ALL SCK)
D6030 MA132WK
D6031 MA132WA
D6007 MA728
QR6003 UN9213 (P.ON Ⓗ:ON)
D6024 MA728
D6022 MA728
D6023 MA728
IC6008 μPD74HC00G
IC6016 μPD74HC32G
D6020 MA728
D6021 MA728
IC6003 MN13821-Y (RESET)
IC6002 RH5RE38AA (3.8V REG.)
D6040 MA728
D6005 MA3130
IC6004 BA6289F (LOADING MOTOR DRIVE)
QR6001 UN9112 (SNS LED DRIVE)
Q6001 2SD2216 (SNS LED DRIVE)
IC6007 LM393DB (S-REEL PULSE AMP) (T-REEL PULSE AMP)
A-LINE
B-LINE
C-LINE
SYS REG 3.5V
SYS REG 5V
NON REG
3.8V
G
F
E
D
C
B
A
1
2
3
4
5
6
7
8
9
10
11
12
13

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

Back Page:
CAMERA MAIN C.B.A. Section

CAPSTAN SERVO SPEED LOOP — CAPSTAN SERVO PHASE LOOP — CYLINDER SERVO SPEED LOOP — CYLINDER SER


A · LINE
B · LINE
C · LINE
D · LINE
SYS REG 3.5V
SYS REG 5V
REG 3.5V
NON REG
3.8V
IC6005 TC4S66FT85R
IC6013 TC4S66FT85R
IC6015 TC4W53F
QR6027 XP1213
(ALL SCK AMP)
QR6026 XP6501
(S-DATA)
(ALL SCK)
D6007 MA728
D6030 MA132WK
D6031 MA132WA
QR6003 UN9213
(P.ON Ⓗ:ON)
IC6001 MN6755240V8Q
IC6003 MN13821-Y
(RESET)
IC6002 RH5RE38AA
(3.8V REG.)
D6005 MA3130
D6021 MA728
D6023 MA728
QR6001 UN9112
(SNS LED DRIVE)
IC6007 LM393DB
(S-REEL PULSE AMP)
(T-REEL PULSE AMP)
IC6001-3 FF/REW 3.8Vp-p (10msec./div.)
IC6001-38 2.2Vp-p (20μsec./div.)
IC6001-41 3.8Vp-p (20μsec./div.)
IC6001-73 3.2Vp-p (10msec./div.)
IC6001-72 FF/REW 3.4Vp-p (10msec./div.)
X6001 VSX0461
X6002 VSX0439
D6001 MA133
PG SHIFTER
VR6201 100KB
QR6029 UN5213
(EVF CTL)
Q6101 2SB1462
D6035 MA132K
QR6101 UN9215
(CAP. PⒽ:ON)
QR6105 UN9113
(S.C.R.:ON)
Q6105 2SD2216
(S.C.R Ⓗ:ON)
QR6002 XN4130
D6003 MA132WK
QR6013 UN9213
(R.ERASE Ⓗ:ON)
9
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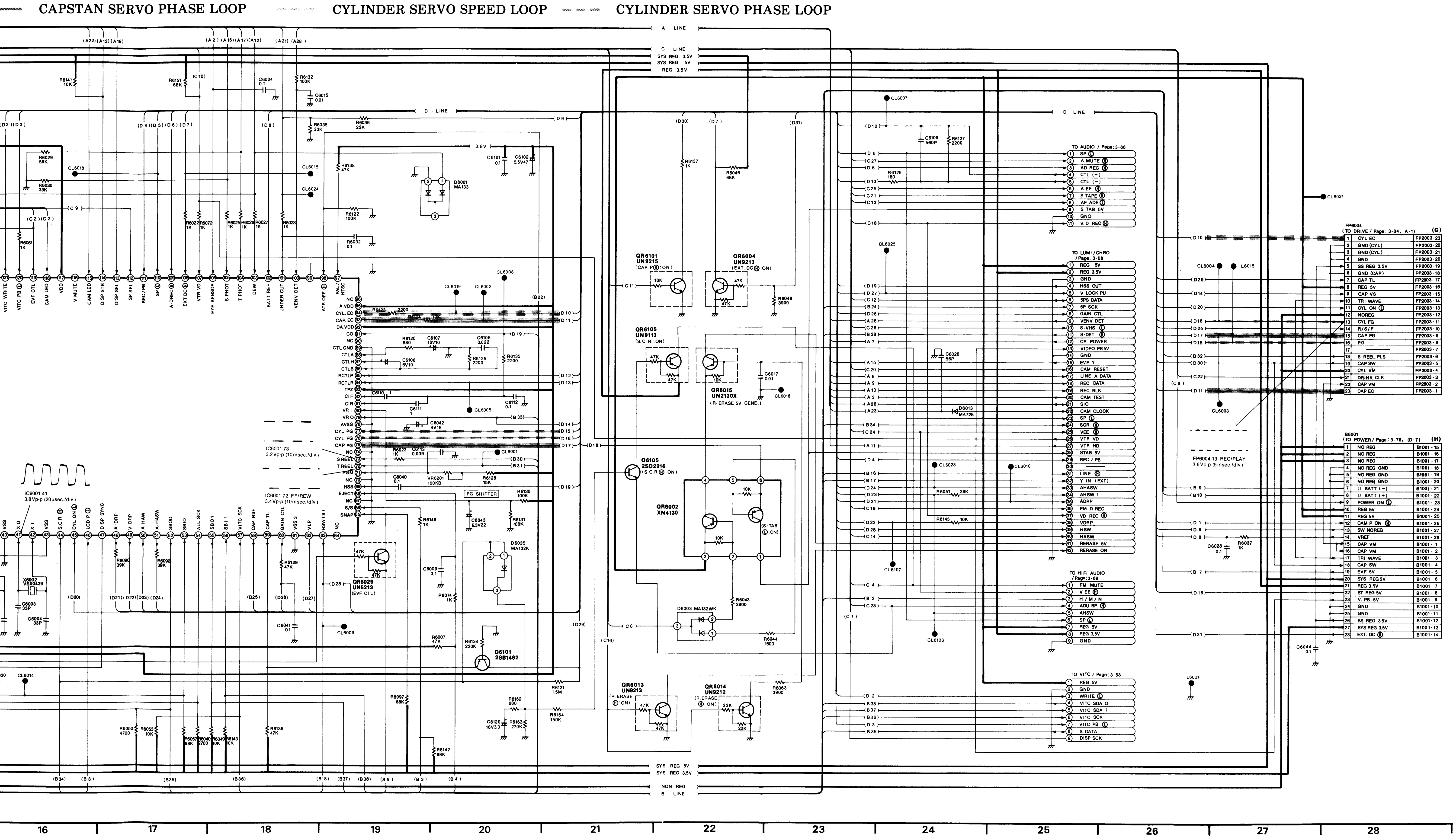
19
20
21
22


CAPSTAN SERVO PHASE LOOP
CYLINDER SERVO SPEED LOOP
CYLINDER SERVO PHASE LOOP
A · LINE
C · LINE
SYS REG 3.5V
SYS REG 5V
REG 3.5V
D · LINE
3.8V
SYS REG 5V
SYS REG 3.5V
NON REG
B · LINE
IC6001-41
3.8Vp-p (20μsec./div.)
IC6001-73
3.2Vp-p (10msec./div.)
IC6001-72 FF/REW
3.4Vp-p (10msec./div.)
FP6004-13 REC/PLAY
3.6Vp-p (5msec./div.)
PG SHIFTER
X6002 VSX0439
D6001 MA133
D6035 MA132K
D6003 MA132WK
D6013 MA728
QR6029 UN5213 (EVF CTL)
Q6101 2SB1462
QR6101 UN9215 (CAP. P(H) : ON)
QR6004 UN9213 (EXT. DC(H) : ON)
QR6105 UN9113 (S.C.R : ON)
QR6015 UN2130X (R-ERASE 5V GENE.)
Q6105 2SD2216 (S.C.R(H) : ON)
QR6002 XN4130
(S-TAB (L) : ON)
QR6013 UN9213 (R.ERASE (H) : ON)
QR6014 UN9212 (R.ERASE (H) : ON)
VITC WRITE
VITC PB (L)
EVF CTL
CAM LED
VDD
V MUTE
CAM LED
DISP STB
DISP SEL
SP SEL
REC/PB
SP (L)
A-DREC (H)
EXT DC (H)
VTR VD
EYE SENSOR
S PHOT
T PHOT
DEW
BATT REF
UNDER CUT
VENV DET
ATR OFF (H)
PAL/NTSC
NC
A.VDD
CYL. EC
CAP. EC
DA.VDD
CO
NC
CTL GND
CTLA
CTLH
CTLB
RCTLP
RCTLR
TPZ
CIF
CIR
VR I
VR O
AVSS
CYL PG
CYL FG
CAP FG
NC
S REEL
T REEL
PGM
NC
HSS
EJECT
NC
S/S
SNAP
VSS
X O
X I
VSS
S.C.R. (H)
CYL ON (L)
LCD P (L)
DISP SYNC
A-DRP
V-DRP
A-HASW
SBOO
SBIO
ALL SCK
SBO1
SBI1
VITC SCK
CAP RSF
CAP TL
GAIN CTL
VSS 3
VLP
HSW (S)
NC
TO AUDIO / Page : 3-66
1 SP (L)
2 A MUTE (H)
3 AD REC (H)
4 CTL (+)
5 CTL (−)
6 A EE (H)
7 S TAPE (H)
8 AF ADE (L)
9 S TAB 5V
10 GND
11 V.D REC (H)
TO LUMI / CHRO / Page : 3-58
1 REG 5V
2 REG 3.5V
3 GND
4 HSS OUT
5 V LOCK PU
6 SPS DATA
7 SP SCK
8 GAIN CTL
9 VENV DET
10 S-VHS (L)
11 S-DET (H)
12 CR POWER
13 VIDEO PB 5V
14 GND
15 EVF Y
16 CAM RESET
17 LINE A DATA
18 REC DATA
19 REC BLK
20 CAM TEST
21 SIO
22 CAM CLOCK
23 SP (L)
24 SCR (H)
25 VEE (H)
26 VTR VD
27 VTR HD
28 STAB 5V
29 REC / PB
30
31 LINE (H)
32 Y IN (EXT)
33 AHASW
34 AHSW 1
35 ADRP
36 FM D REC
37 VD REC (H)
38 VDRP
39 HSW
40 HASW
41 RERASE 5V
42 RERASE ON
TO HIFI AUDIO / Page : 3-69
1 FM MUTE
2 V EE (H)
3 H / M / N
4 ADU BP (H)
5 AHSW
6 SP (L)
7 REG 5V
8 REG 3.5V
9 GND
TO VITC / Page : 3-53
1 REG 5V
2 GND
3 WRITE (L)
4 VITC SDA O
5 VITC SDA I
6 VITC SCK
7 VITC PB (L)
8 S DATA
9 DISP SCK
FP6004
(TO DRIVE / Page : 3-84, A-1) (G)
1 CYL EC FP2003-23
2 GND (CYL) FP2003-22
3 GND (CYL) FP2003-21
4 GND FP2003-20
5 SS REG 3.5V FP2003-19
6 GND (CAP) FP2003-18
7 CAP TL FP2003-17
8 REG 5V FP2003-16
9 CAP VS FP2003-15
10 TRI WAVE FP2003-14
11 CYL ON (L) FP2003-13
12 NOREG FP2003-12
13 CYL FG FP2003-11
14 R/S/F FP2003-10
15 CAP FG FP2003-9
16 PG FP2003-8
17 —— FP2003-7
18 S-REEL PLS FP2003-6
19 CAP SW FP2003-5
20 CYL VM FP2003-4
21 DRINK CLK FP2003-3
22 CAP VM FP2003-2
23 CAP EC FP2003-1
B6001
(TO POWER / Page : 3-78, (D-7) (H)
1 NO REG B1001-15
2 NO REG B1001-16
3 NO REG B1001-17
4 NO REG GND B1001-18
5 NO REG GND B1001-19
6 NO REG GND B1001-20
7 LI BATT (−) B1001-21
8 LI BATT (+) B1001-22
9 POWER ON (L) B1001-23
10 REG 5V B1001-24
11 REG 5V B1001-25
12 CAM P ON (H) B1001-26
13 SW NOREG B1001-27
14 VREF B1001-28
15 CAP VM B1001-1
16 CAP VM B1001-2
17 TRI WAVE B1001-3
18 CAP SW B1001-4
19 EVF 5V B1001-5
20 SYS REG5V B1001-6
21 REG 3.5V B1001-7
22 ST REG 5V B1001-8
23 V. PB. 5V B1001 9
24 GND B1001-10
25 GND B1001-11
26 SS REG 3.5V B1001-12
27 SYS REG 3.5V B1001-13
28 EXT. DC (H) B1001-14
CL6001
CL6002
CL6003
CL6004
CL6005
CL6006
CL6007
CL6009
CL6010
CL6014
CL6015
CL6016
CL6018
CL6019
CL6021
CL6023
CL6024
CL6025
CL6107
CL6108
TL6001
L6015
16
17
18
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28

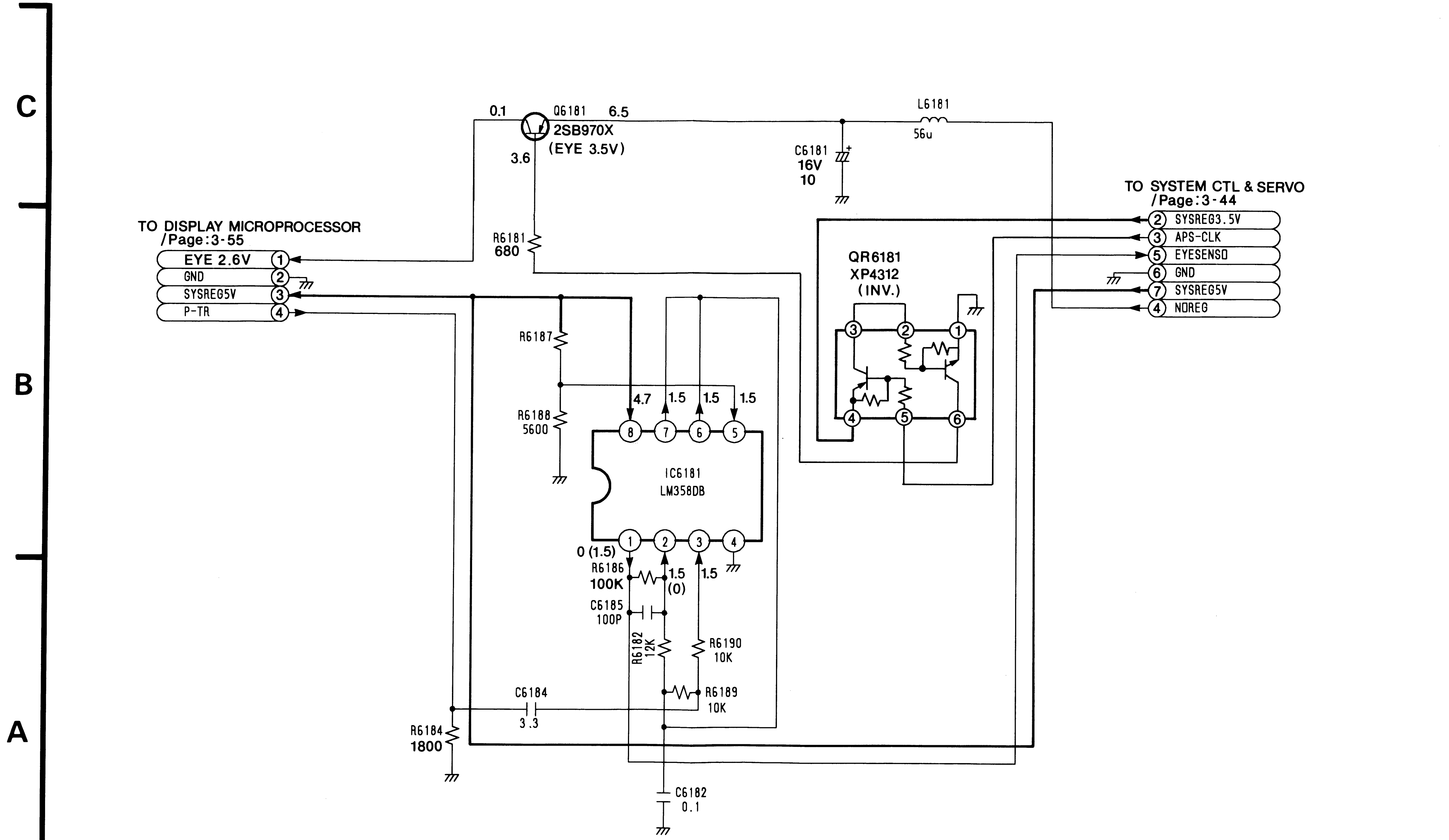
SYSTEM CONTROL & SERVO ICs DC·VOLTAGE CHART (S-VHS: SP MODE)

REF. NO.	IC6001																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
STOP	0	0	3.7	3.7	3.7	3.7	3.6	3.6	3.6	0	3.6	1.0	0.2	0.9	3.7	0	0	0	0	3.6
PLAY	0	0	3.7	3.7	3.7	0	3.7	3.7	0.8	0.8	3.7	0	0	1.2	3.7	1.8	0	0	0	0
F.F	0	0	3.5	3.7	3.7	0	3.7	3.7	3.6	0	3.6	0	0	1.2	0	1.8	3.7	3.7	0	0
REF. NO.	IC6001																			
MODE	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
STOP	0	0	1.8	0	0	0	0	0	0	3.4	3.6	0	0	0	3.5	0	0	1.7	1.7	0
PLAY	0	0	1.9	0	3.7	0	0	0.8	0.9	0.8	0	0.8	0	0	0	0	0	1.7	1.7	0
F.F	0	0	0	0	3.7	0	0	0	0	0	3.7	0	0	3.7	3.6	0	0	1.8	1.7	0
REF. NO.	IC6001																			
MODE	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
STOP	3.6	3.6	0	0	0	0	2.9	3.0	2.9	3.1	0.3	3.3	1.7	3.6	0	0.3	3.4	1.7	3.6	1.0
PLAY	1.6	1.5	0	0	0	0	3.7	3.7	3.7	3.7	3.7	3.2	3.5	3.1	3.5	0	3.5	0	3.7	0.8
F.F	1.5	1.3	0	0	0	3.7	3.7	0	0	3.7	0	2.9	3.1	2.9	3.2	0.3	3.3	0	3.6	1.0
REF. NO.	IC6001																			
MODE	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
STOP	0	0	0	0	3.5	3.5	0.1	3.7	1.0	0	0.3	3.5	3.2	0	1.7	0	0	0	1.8	0.1
PLAY	0	0	1.3	0.8	3.5	3.5	0	3.7	1.0	0	1.0	1.6	3.2	0	1.7	0.1	0.2	0	1.9	0.1
F.F	0	0	2.3	0	3.5	3.5	0	3.7	1.0	0	1.0	1.7	3.2	0	1.7	1.8	0	0	1.9	0
REF. NO.	IC6001																			
MODE	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
STOP	1.6	2.0	3.7	0.1	0	0	0	1.8	0	1.8	1.8	3.7	0.1	3.7	3.7	0.1	0.1	0	0.2	0.1
PLAY	1.8	2.0	3.7	0	0	0	1.9	1.9	0	0	1.8	3.7	1.6	0	0	0.1	3.7	0	0.2	0
F.F	0	2.0	3.7	0	0	0	0	0	0	1.8	1.8	0	1.4	0	3.7	0	0	0	0.1	0
REF. NO.	IC6001																			
MODE	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120
STOP	3.3	2.4	0	0	0	1.6	3.3	0	0	0	3.6	0.1	3.7	0.1	0.1	3.7	3.7	0	3.7	3.7
PLAY	3.3	2.4	0	0	0	1.6	3.3	0	0	0	0	2.9	0	3.7	3.7	0	3.7	3.7	3.7	0
F.F	3.3	2.4	0	0	0	1.6	3.4	0	0	0	3.7	2.5	0	3.7	2.6	0	3.7	3.7	3.7	3.7
REF. NO.	IC6001																			
MODE	121	122	123	124	125	126	127	128												
STOP	3.7	3.6	0.1	3.6	0.1	3.6	3.6	0												
PLAY	3.7	3.7	3.7	3.6	3.7	0	3.7	0												
F.F	3.7	3.7	3.6	3.6	3.6	3.6	3.7	0												
REF. NO.	IC6002										IC6003									
MODE	1	2	3								1	2	3							
STOP	0.1	6.5	3.8								0	3.7	3.7							
PLAY	0	6.6	3.8								0	3.7	3.7							
F.F	0	6.4	3.8								0	3.7	3.7							
REF. NO.	IC6004										IC6005									
MODE	1	2	3	4	5	6	7	8			1	2	3	4	5					
STOP	1.0	6.5	4.7	0	0	0.2	2.0	0.1			0.7	0.7	0	0.7	3.5					
PLAY	0.1	6.5	4.7	0	0	2.9	0.1	0.1			3.2	0	0	0	3.5					
F.F	1.2	6.4	4.7	0	0	2.9	1.2	0			0	1.8	0	0.3	3.5					
REF. NO.	IC6007																			
MODE	1	2	3	4	5	6	7	8												
STOP	3.5	0.4	0.5	0	1.9	0.1	3.2	4.8												
PLAY	2.5	0.5	0.5	0	1.6	1.6	2.8	4.8												
F.F	2.0	0.5	0.5	0	1.8	0	0	4.8												
REF. NO.	IC6008																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14						
STOP	0	0	3.7	3.6	3.6	0	0	3.7	0	0	3.7	0	3.6	3.7						
PLAY	0	0	3.7	3.7	3.7	0	0	3.7	0	3.7	3.7	0	0	3.7						
F.F	0	0	3.7	3.7	3.7	0	0	3.7	0	3.7	3.7	0	0	3.7						
REF. NO.	IC6013										IC6015									
MODE	1	2	3	4	5						1	2	3	4	5	6	7	8		
STOP	3.0	3.2	0	0.9	3.5						3.4	0	0	0	0.9	3.4	3.7	3.5		
PLAY	3.0	0	0	0	3.5						3.5	0	0	0	0.7	3.4	3.7	3.5		
F.F	3.0	1.7	0	1.2	3.5						3.5	0	0	0	1.0	3.4	3.7	3.5		
REF. NO.	IC6016																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14						
STOP	3.7	0	3.7	3.7	0	3.7	0	3.7	0	3.7	3.7	3.7	3.7	3.7						
PLAY	3.7	0	3.7	3.7	0	3.7	0	3.7	0	3.7	3.7	3.7	3.7	3.7						
F.F	3.7	0.1	3.7	3.7	0	3.7	0.1	3.7	0	3.7	3.7	3.7	3.6	3.7						

SYSTEM CONTROL & SERVO TRs DC VOLTAGE CHART (S-VHS: SP MODE)

REF. NO.	Q6001			Q6002			Q6101											
MODE	E	C	B	E	C	B	E	C	B									
STOP	0	6.5	0	3.5	3.0	3.5	3.6	0.7	3.1									
PLAY	0.1	6.6	0	0	0.1	0	3.7	0.1	3.1									
F.F	0.3	6.4	0.2	3.6	3.0	3.6	3.7	0.1	3.1									
REF. NO.	QR6001			QR6002						QR6003			QR6004			QR6005		
MODE	E	C	B	1	2	3	4	5	6	E	C	B	E	C	B	E	C	B
STOP	3.5	0	3.7	4.8	4.0	4.7	4.7	4.1	4.8	0	0.1	3.6	0	0	5.4	3.7	3.6	0.1
PLAY	3.5	0.4	3.7	4.8	4.1	4.7	4.7	4.1	4.8	0	0.2	3.7	0	0	5.4	3.7	0.4	0
F.F	3.5	0.2	3.5	4.8	4.0	4.7	4.7	4.1	4.8	0	0.1	0	0	0	0	3.7	3.7	0
REF. NO.	QR6010						QR6013			QR6014			QR6015			QR6019		
MODE	1	2	3	4	5	6	E	C	B	E	C	B	E	C	B	E	C	B
STOP	3.7	3.7	3.4	3.5	0	0.1	0	0	0	0	4.7	0	4.7	0.2	4.7	4.4	4.5	3.6
PLAY	3.7	3.7	3.4	3.5	0	0	0	0.4	0	0	4.8	0	4.8	0.4	4.8	4.5	4.5	3.7
F.F	3.7	3.7	3.4	3.5	0	0	0	0	0	0	4.7	0	4.7	0.2	4.7	4.6	0	3.7
REF. NO.	QR6023			QR6024						QR6025								
MODE	E	C	B	1	2	3	4	5	6	1	2	3	4	5	6			
STOP	0	0.1	3.5	1.6	0.2	0.2	0	0.6	3.3	2.6	0.3	0.3	0	0.6	3.5			
PLAY	0	0.1	3.6	2.0	0.2	0.2	0	0.6	3.3	3.7	0.3	0.3	0	0.6	3.5			
F.F	0	0.1	3.5	0.1	0.1	0.1	0	0.6	3.2	2.6	0.3	0.3	0	0.6	3.4			
REF. NO.	QR6026						QR6027						QR6028			QR6101		
MODE	1	2	3	4	5	6	1	2	3	4	5		E	C	B	E	C	B
STOP	2.5	0	0.1	4.2	0.2	4.4	0.3	0	2.8	0.1	0.2		4.7	4.6	3.9	0	6.5	1.0
PLAY	2.6	0	0.1	4.3	0.3	4.4	3.0	0	3.0	0.1	0.3		4.7	4.6	3.9	0	5.6	0
F.F	2.7	0	0.1	4.3	0.2	4.4	2.9	0	3.0	0	0.2		4.7	4.6	3.9	0	4.9	0

3-19. AUTO POWER SAVER SCHEMATIC DIAGRAM

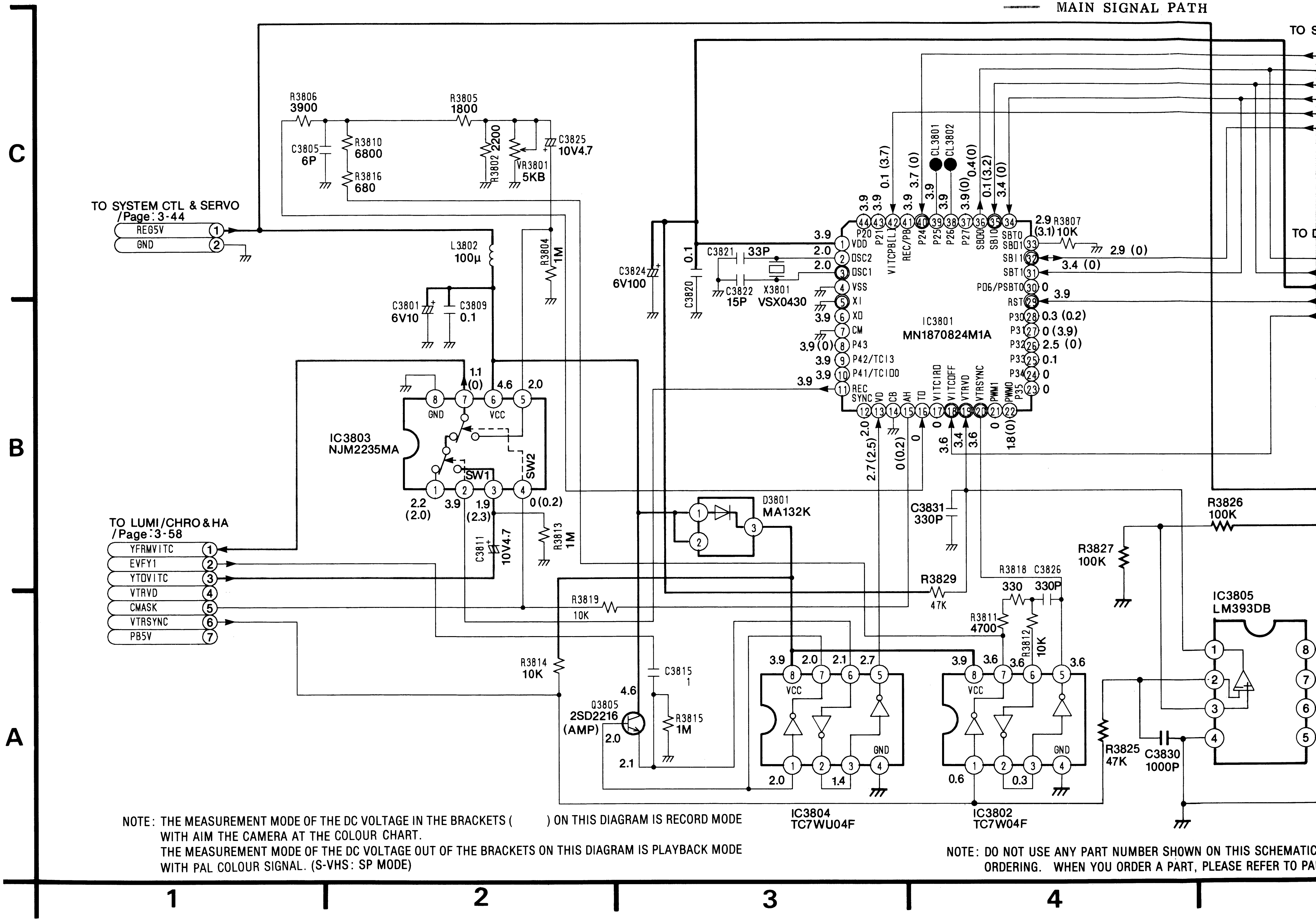

C
B
A
Q6181
2SB970X
(EYE 3.5V)
0.1
6.5
3.6
L6181
56u
C6181
16V
10
TO SYSTEM CTL & SERVO
/Page:3-44
② SYSREG3.5V
③ APS-CLK
⑤ EYESENSO
⑥ GND
⑦ SYSREG5V
④ NOREG
TO DISPLAY MICROPROCESSOR
/Page:3-55
EYE 2.6V ①
GND ②
SYSREG5V ③
P-TR ④
R6181
680
QR6181
XP4312
(INV.)
R6187
R6188
5600
4.7
1.5
1.5
1.5
IC6181
LM358DB
0 (1.5)
R6186
100K
1.5
(0)
1.5
C6185
100P
R6182
12K
R6190
10K
R6189
10K
C6184
3.3
R6184
1800
C6182
0.1

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS (   ) ON THIS DIAGRAM IS EVF: ON MODE.
THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS EVF: OFF MODE.

1 2 3 4

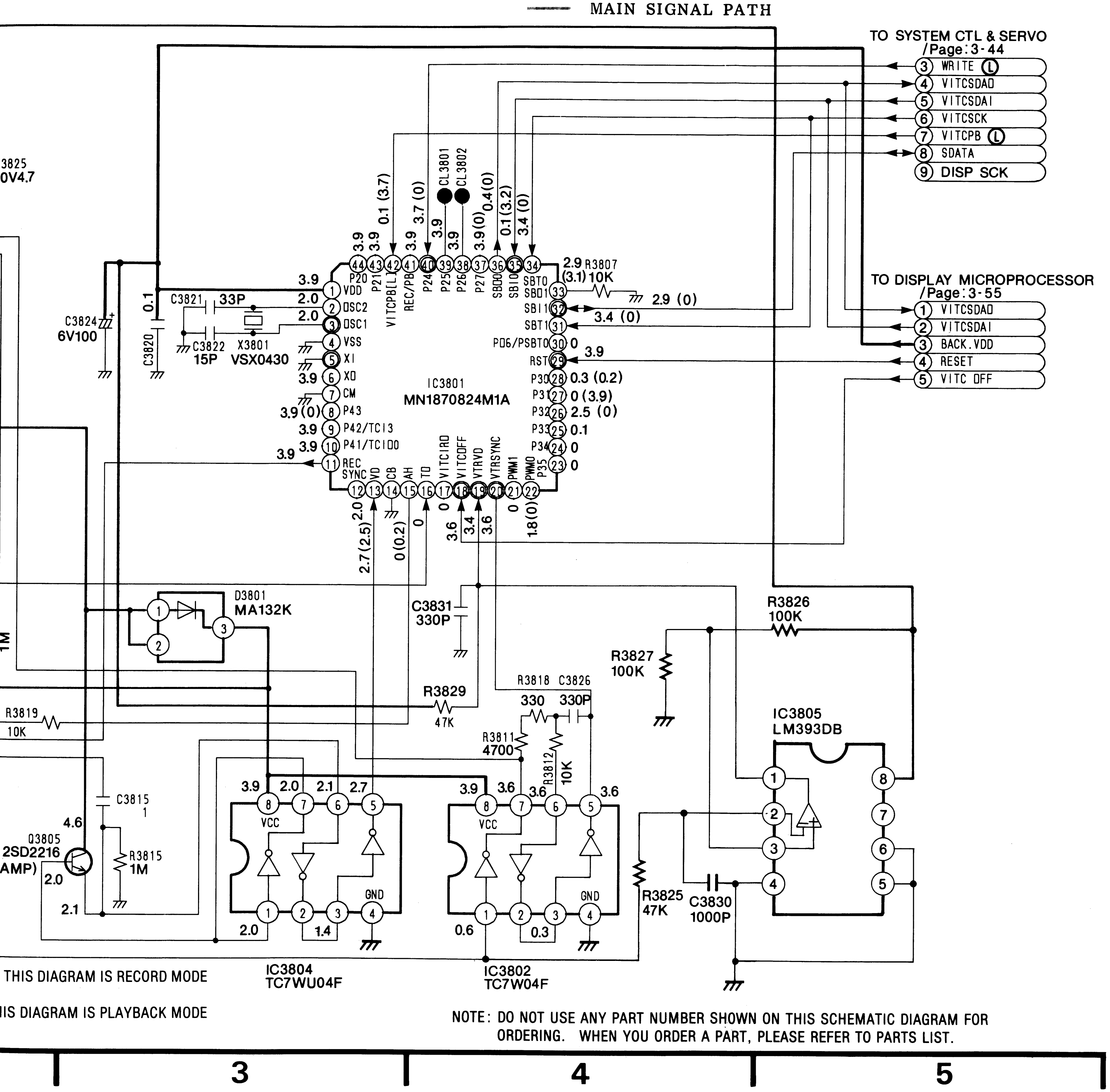
3-20. VITC SCHEMATIC DIAGRAM



MAIN SIGNAL PATH
TO S
TO D
TO SYSTEM CTL & SERVO /Page: 3-44
REG5V
GND
TO LUMI/CHRO&HA /Page: 3-58
YFRMVITC
EVFY1
YTOVITC
VTRVD
CMASK
VTRSYNC
PB5V
R3806 3900
R3805 1800
C3805 6P
R3810 6800
R3816 680
R3802 2200
VR3801 5KB
C3825 10V4.7
L3802 100μ
R3804 1M
C3801 6V10
C3809 0.1
IC3803 NJM2235MA
GND
VCC
SW1
SW2
C3811 10V4.7
R3813 1M
R3819 10K
R3814 10K
C3815 1
R3815 1M
Q3805 2SD2216 (AMP)
C3824 6V100
C3820 0.1
C3821 33P
C3822 15P
X3801 VSX0430
CL3801
CL3802
IC3801 MN1870824M1A
R3807 10K
D3801 MA132K
C3831 330P
R3829 47K
R3818 330
C3826 330P
R3811 4700
R3812 10K
IC3804 TC7WU04F
IC3802 TC7W04F
R3826 100K
R3827 100K
IC3805 LM393DB
R3825 47K
C3830 1000P
VDD
OSC2
OSC1
VSS
XI
XO
CM
P43
P42/TC13
P41/TC100
REC SYNC
VD
CB
AH
TO
VITCIRD
VITCOFF
VTRVD
VTRSYNC
PWM1
PWM0 P35
SBTO
SBO1
SBI1
SBT1
P06/PSBTO
RST
P30
P31
P32
P33
P34
P20
P21
VITCPB(L)
REC/PB
P24
P25
P26
P27
SBOO
SBIO
C
B
A
1
2
3
4

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS (   ) ON THIS DIAGRAM IS RECORD MODE WITH AIM THE CAMERA AT THE COLOUR CHART.
THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS PLAYBACK MODE WITH PAL COLOUR SIGNAL. (S-VHS: SP MODE)

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PA

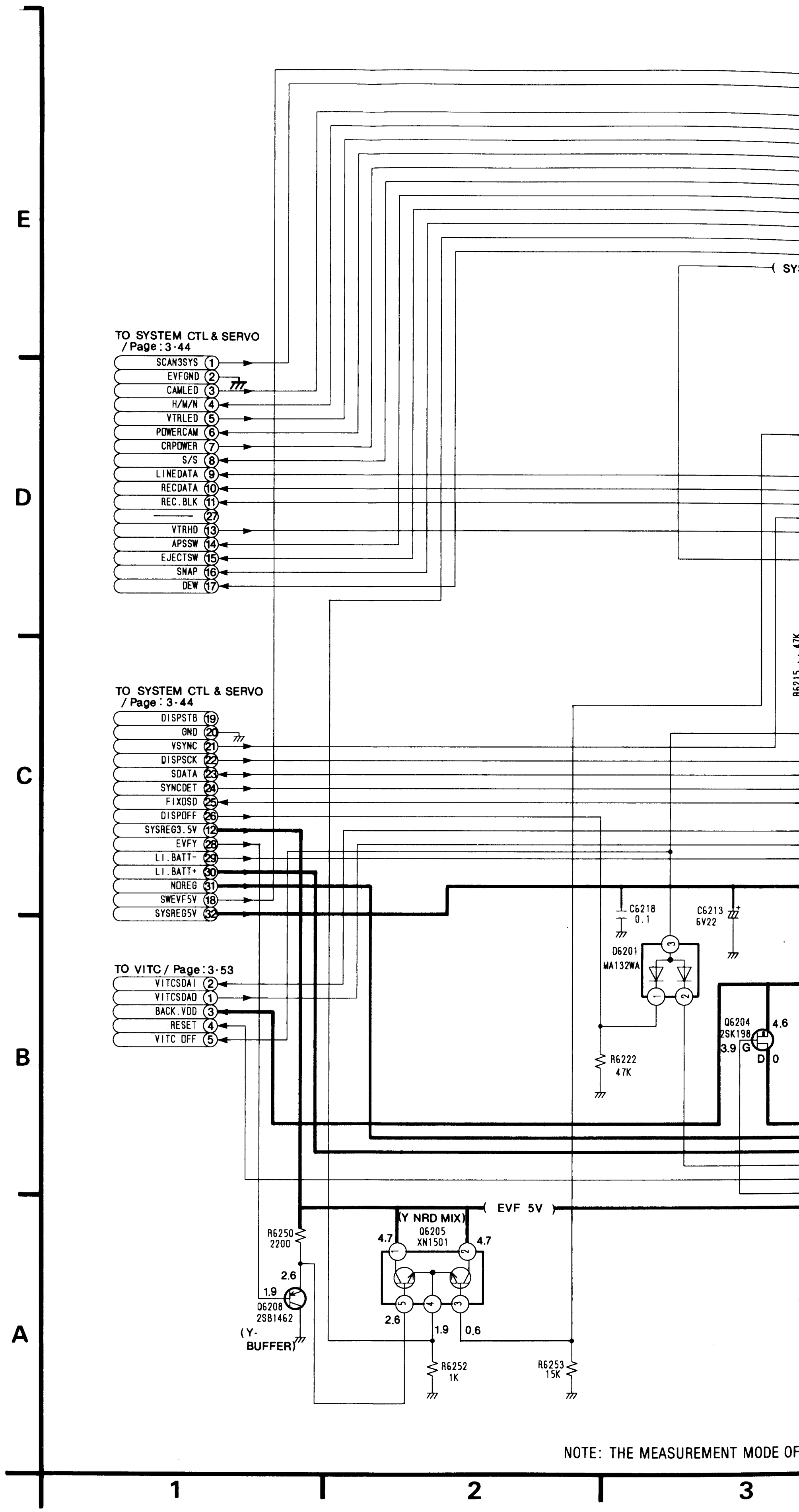

MAIN SIGNAL PATH
TO SYSTEM CTL & SERVO
/Page:3-44
(3) WRITE Ⓛ
(4) VITCSDAO
(5) VITCSDAI
(6) VITCSCK
(7) VITCPB Ⓛ
(8) SDATA
(9) DISP SCK
TO DISPLAY MICROPROCESSOR
/Page:3-55
(1) VITCSDAO
(2) VITCSDAI
(3) BACK.VDD
(4) RESET
(5) VITC OFF
IC3801
MN1870824M1A
VDD
OSC2
OSC1
VSS
XI
XO
CM
P43
P42/TCI3
P41/TCIDO
REC SYNC
VD
CB
AH
TD
VITCIRD
VITCOFF
VTRVD
VTRSYNC
PWM1
PWM0 P35
P34
P33
P32
P31
P30
RST
P06/PSBTO
SBT1
SBI1
SBO1
SBTO
SBIO
SBOO
P27
P26
P25
P24
REC/PB
VITCPB(L)
P21
P20
CL3801
CL3802
R3807
10K
C3821
33P
C3822
15P
X3801
VSX0430
C3824
6V100
C3820
0.1
C3825
10V4.7
C3831
330P
R3829
47K
R3818
330
C3826
330P
R3811
4700
R3812
10K
R3827
100K
R3826
100K
R3825
47K
C3830
1000P
IC3805
LM393DB
D3801
MA132K
R3819
10K
C3815
1
R3815
1M
Q3805
2SD2216
AMP)
IC3804
TC7WU04F
IC3802
TC7W04F
VCC
GND
3
4
5

THIS DIAGRAM IS RECORD MODE

IS DIAGRAM IS PLAYBACK MODE

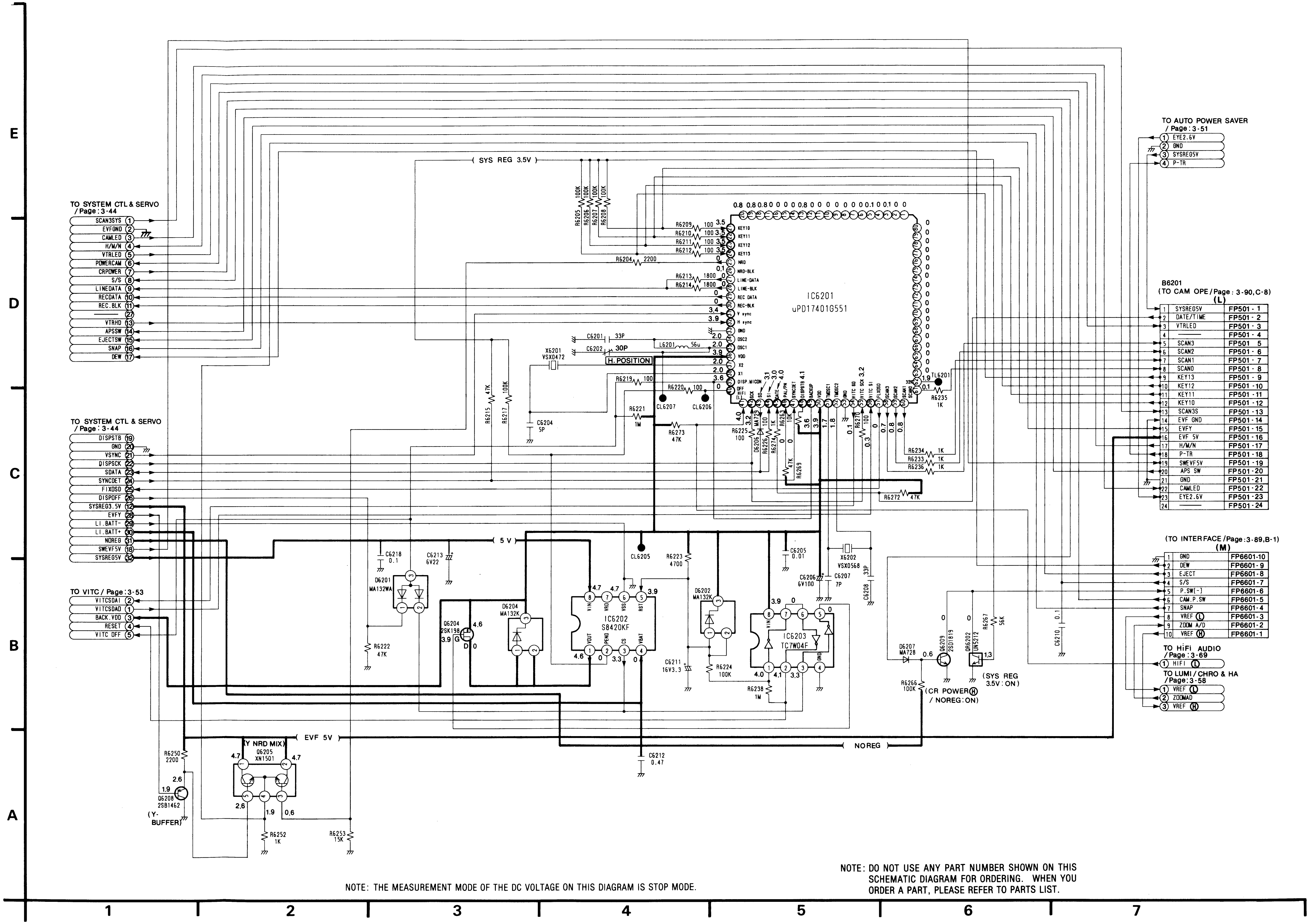
NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

3-21. DISPLAY MICROPROCESSOR SCHEMATIC D


TO SYSTEM CTL & SERVO
/Page:3-44
SCAN3SYS
EVFGND
CAMLED
H/M/N
VTRLED
POWERCAM
CRPOWER
S/S
LINEDATA
RECDATA
REC.BLK
VTRHD
APSSW
EJECTSW
SNAP
DEW
TO SYSTEM CTL & SERVO
/Page:3-44
DISPSTB
GND
VSYNC
DISPSCK
SDATA
SYNCDET
FIXOSD
DISPOFF
SYSREG3.5V
EVFY
LI.BATT-
LI.BATT+
NDREG
SWEVF5V
SYSREG5V
TO VITC / Page:3-53
VITCSDAI
VITCSDAO
BACK.VDD
RESET
VITC OFF
C6218
0.1
C6213
6V22
D6201
MA132WA
R6222
47K
Q6204
2SK198
EVF 5V
Y NRD MIX
Q6205
XN1501
R6250
2200
Q6208
2SB1462
(Y-BUFFER)
R6252
1K
R6253
15K
E
D
C
B
A
1
2
3

NOTE: THE MEASUREMENT MODE OF

3-21. DISPLAY MICROPROCESSOR SCHEMATIC DIAGRAM


TO SYSTEM CTL & SERVO / Page : 3-44
SCAN3SYS ①
EVFGND ②
CAMLED ③
H/M/N ④
VTRLED ⑤
POWERCAM ⑥
CRPOWER ⑦
S/S ⑧
LINEDATA ⑨
RECDATA ⑩
REC.BLK ⑪
㉗
VTRHD ⑬
APSSW ⑭
EJECTSW ⑮
SNAP ⑯
DEW ⑰
TO SYSTEM CTL & SERVO / Page : 3-44
DISPSTB ⑲
GND ⑳
VSYNC ㉑
DISPSCK ㉒
SDATA ㉓
SYNCDET ㉔
FIXOSD ㉕
DISPOFF ㉖
SYSREG3.5V ⑫
EVFY ㉘
LI.BATT- ㉙
LI.BATT+ ㉚
NOREG ㉛
SWEVF5V ⑱
SYSREG5V ㉜
TO VITC / Page : 3-53
VITCSDAI ②
VITCSDAO ①
BACK.VDD ③
RESET ④
VITC OFF ⑤
SYS REG 3.5V
R6205 100K
R6206 100K
R6207 100K
R6208 100K
R6209 100
R6210 100
R6211 100
R6212 100
R6204 2200
R6213 1800
R6214 1800
IC6201
uPD17401G551
C6201 33P
C6202 30P
X6201 VSX0472
L6201 56u
H. POSITION
R6219 100
R6220 100
R6221 1M
CL6207
CL6206
R6273 47K
R6215 47K
R6217 100K
C6204 5P
R6225 100
D6206 MA723
R6226 1K
R6274 47K
R6269
R6270 100
R6234 1K
R6233 1K
R6236 1K
R6235 1K
TL6201
R6272 47K
5 V
C6218 0.1
C6213 6V22
D6201 MA132WA
R6222 47K
Q6204 2SK198
D6204 MA132K
CL6205
R6223 4700
IC6202 S8420KF
C6205 0.01
X6202 VSX0568
C6206 6V100
C6207 7P
C6208 33P
D6202 MA132K
IC6203 TC7W04F
C6211 16V3.3
R6224 100K
R6238 1M
C6212 0.47
D6207 MA728
Q6209 2SD1819
QR6202 UN5212
R6267 56K
C6210 0.1
R6266 100K
(CR POWER Ⓗ / NOREG : ON)
(SYS REG 3.5V : ON)
EVF 5V
(Y NRD MIX)
Q6205 XN1501
R6250 2200
Q6208 2SB1462
(Y-BUFFER)
R6252 1K
R6253 15K
NOREG
TO AUTO POWER SAVER / Page : 3-51
① EYE2.6V
② GND
③ SYSREG5V
④ P-TR
B6201
(TO CAM OPE / Page : 3-90, C-8)
(L)
1 SYSREG5V FP501-1
2 DATE/TIME FP501-2
3 VTRLED FP501-3
4 FP501-4
5 SCAN3 FP501 5
6 SCAN2 FP501-6
7 SCAN1 FP501-7
8 SCAN0 FP501-8
9 KEY13 FP501-9
10 KEY12 FP501-10
11 KEY11 FP501-11
12 KEY10 FP501-12
13 SCAN3S FP501-13
14 EVF GND FP501-14
15 EVFY FP501-15
16 EVF 5V FP501-16
17 H/M/N FP501-17
18 P-TR FP501-18
19 SWEVF5V FP501-19
20 APS SW FP501-20
21 GND FP501-21
22 CAMLED FP501-22
23 EYE2.6V FP501-23
24 FP501-24
(TO INTERFACE / Page : 3-89, B-1)
(M)
1 GND FP6601-10
2 DEW FP6601-9
3 EJECT FP6601-8
4 S/S FP6601-7
5 P.SW[-] FP6601-6
6 CAM.P.SW FP6601-5
7 SNAP FP6601-4
8 VREF Ⓛ FP6601-3
9 ZOOM A/D FP6601-2
10 VREF Ⓗ FP6601-1
TO HiFi AUDIO / Page : 3-69
① HIFI Ⓛ
TO LUMI / CHRO & HA / Page : 3-58
① VREF Ⓛ
② ZOOMAD
③ VREF Ⓗ
E
D
C
B
A
1
2
3
4
5
6
7

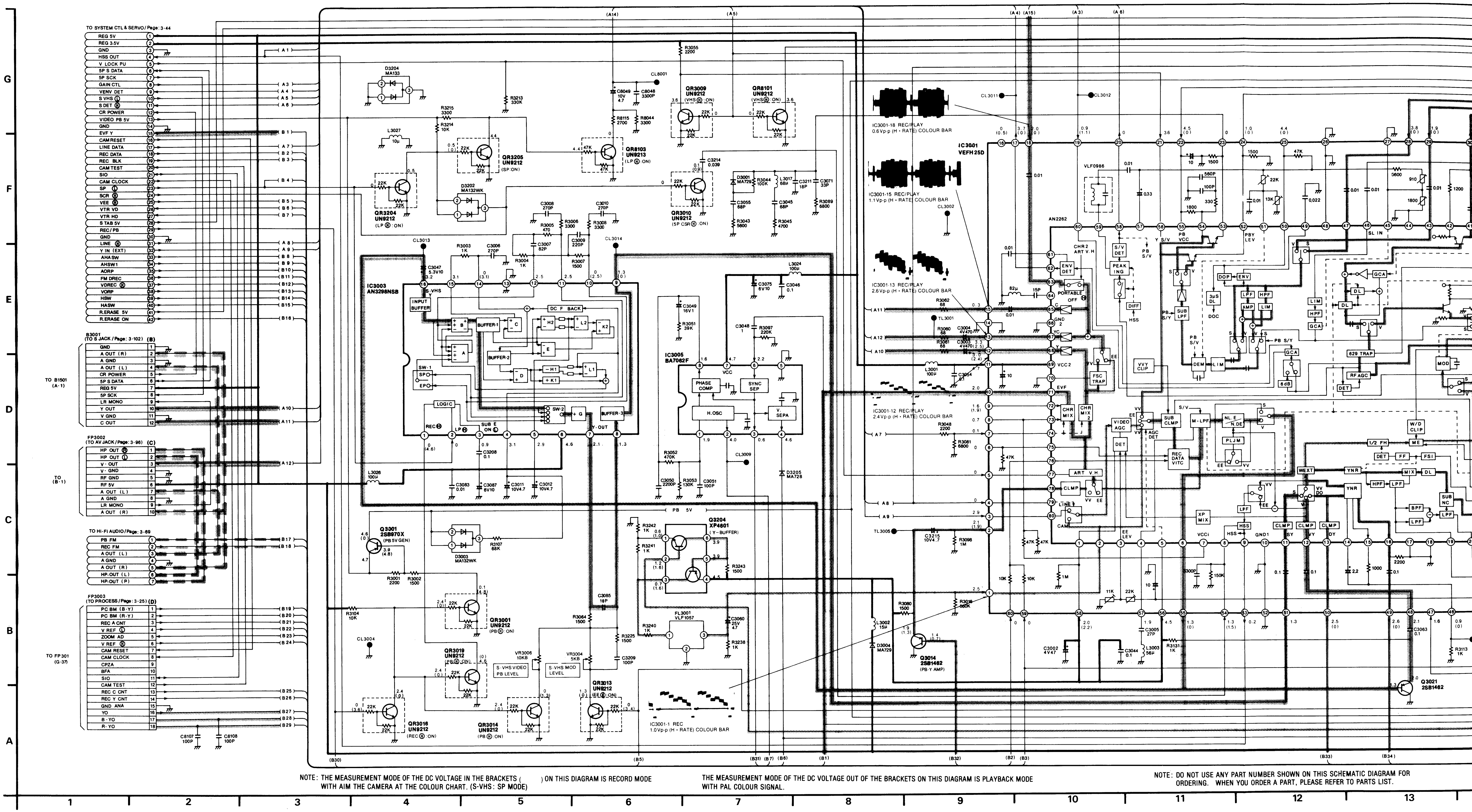
NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE.

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

3-22. LUMINANCE/CHROMINANCE & HEAD AMP SCHEMATIC DIAGRAM

VIDEO MAIN SIGNAL PATH IN REC MODE

VIDEO MAI


TO SYSTEM CTL & SERVO / Page: 3-44
REG 5V
REG 3.5V
GND
HSS OUT
V LOCK PU
SP S DATA
SP SCK
GAIN CTL
VENV DET
S VHS
S DET
CR POWER
VIDEO PB 5V
EVF Y
CAMRESET
LINE DATA
REC DATA
REC BLK
CAM TEST
SIO
CAM CLOCK
VEE
VTR VD
VTR HD
S TAB 5V
REC/PB
Y IN (EXT)
AHA SW
AHSW1
AORP
FM DREC
VDREC
VORP
HSW
HASW
R.ERASE 5V
R.ERASE ON
B3001 (TO S JACK / Page: 3-102)
TO B1501 (A-1)
A OUT (R)
A GND
A OUT (L)
5P S DATA
REG 5V
5P SCK
LR MONO
Y OUT
V GND
C OUT
FP3002 (TO AV JACK / Page: 3-96)
TO (B-1)
HP OUT
V-OUT
V-GND
RF GND
RF 5V
TO HI-FI AUDIO / Page: 3-69
PB FM
REC FM
HP-OUT (L)
HP-OUT (P)
FP3003 (TO PROCESS / Page: 3-25)
TO FP301 (G-37)
PC BM (B-Y)
PC BM (R-Y)
REC A CNT
V REF
ZOOM AD
CAM RESET
CPZA
BFA
REC C CNT
REC Y CNT
GND ANA
YO
B-YO
R-YO
IC3003 AN3298NSB
IC3005 BA7062F
IC3001 VEFH25D
QR3204 UN9212
QR3205 UN9212
QR8103 UN9213
QR3009 UN9212
QR8101 UN9212
QR3010 UN9212
Q3001 2SB970X (PB 5V GEN)
Q3204 XP4601 (Y-BUFFER)
QR3001 UN9212
QR3019 UN9212
QR3016 UN9212
QR3014 UN9212
QR3013 UN9212
Q3014 2SB1462 (PB-Y AMP)
Q3021 2SB1462
FL3001 VLF1057
VR3006 10KB S-VHS VIDEO PB LEVEL
VR3004 5KB S-VHS MOD LEVEL
IC3001-18 REC/PLAY 0.6Vp-p (H·RATE) COLOUR BAR
IC3001-15 REC/PLAY 1.1Vp-p (H·RATE) COLOUR BAR
IC3001-13 REC/PLAY 2.6Vp-p (H·RATE) COLOUR BAR
IC3001-12 REC/PLAY 2.4Vp-p (H·RATE) COLOUR BAR
IC3001-1 REC 1.0Vp-p (H·RATE) COLOUR BAR
PB 5V
PHASE COMP
SYNC SEP
H.OSC
V. SEPA
INPUT BUFFER
BUFFER-1
BUFFER-2
BUFFER-3
DC F BACK
LOGIC
SUB E ON
Y-OUT
AN2262
VLF0986
ENV DET
PEAKING
DIFF
PORTABLE
FSC TRAP
VVY CLIP
CHR MIX
VIDEO AGC
DET
SUB CLMP
M-LPF
REC DATA VITC
ART V.H
CLMP
XP MIX
HSS
LPF
DEMOD
LIM
GCA
629 TRAP
RF AGC
MOD
W/D CLIP
1/2 FH
ME
FSI
WEXT
YNR
HPF
MIX
DL
BPF
SUB NC
DOP
ENV
AMP
DOC
NL E N.DE
PLJM
SL IN
1

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS ( ) ON THIS DIAGRAM IS RECORD MODE WITH AIM THE CAMERA AT THE COLOUR CHART. (S-VHS: SP MODE)

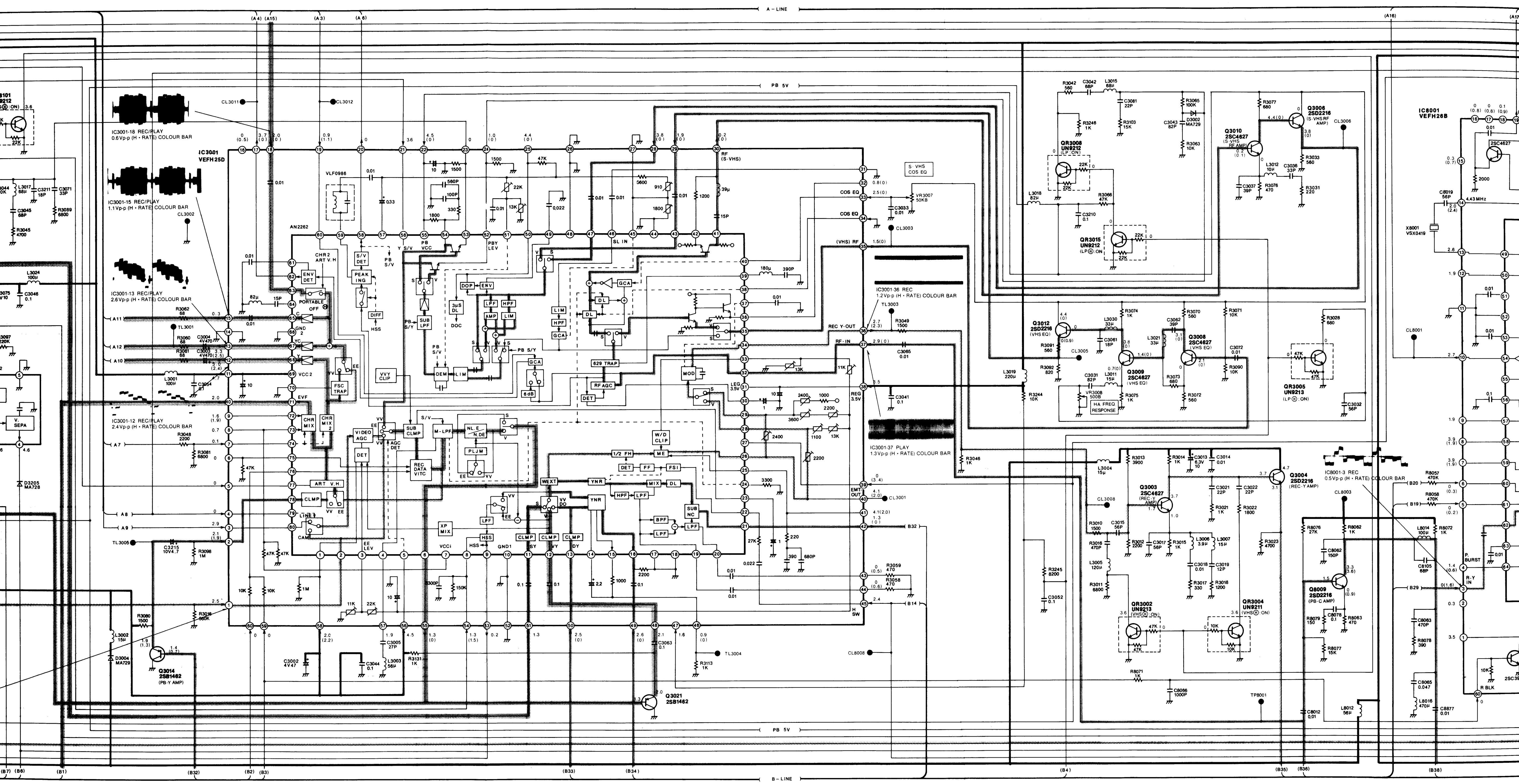
THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS PLAYBACK MODE WITH PAL COLOUR SIGNAL.

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

Back Page:
VITC/DISPLAY Section

LUMI/CHRO & HEAD AMP Section

VIDEO MAIN SIGNAL PATH IN REC MODE — VIDEO MAIN SIGNAL PATH IN PLAYBACK MODE — AUDIO MAIN SIGNAL PATH IN REC MODE


A-LINE
B-LINE
PB 5V
IC3001 VEFH25D
AN2262
IC8001 VEFH26B
IC3001-18 REC/PLAY 0.6Vp-p (H • RATE) COLOUR BAR
IC3001-15 REC/PLAY 1.1Vp-p (H • RATE) COLOUR BAR
IC3001-13 REC/PLAY 2.6Vp-p (H • RATE) COLOUR BAR
IC3001-12 REC/PLAY 2.4Vp-p (H • RATE) COLOUR BAR
IC3001-36 REC 1.2Vp-p (H • RATE) COLOUR BAR
IC3001-37 PLAY 1.3Vp-p (H • RATE) COLOUR BAR
IC8001-3 REC 0.5Vp-p (H • RATE) COLOUR BAR
VLF0986
S-VHS COS EQ
COS EQ
(VHS) RF
RF (S-VHS)
REC Y-OUT
RF-IN
EMT OUT
H SW
ENV DET
PEAK ING
S/V DET
DIFF
HSS
SUB LPF
DEM
LIM
DOP
ENV
LPF
HPF
AMP
3μS DL
DOC
VVV CLIP
GCA
6dB
DL
629 TRAP
RF AGC
DET
MOD
W/D CLIP
1/2 FH
ME
FF
FSI
YNR
MIX
BPF
SUB NC
WEXT
CLMP
XP MIX
VIDEO AGC
SUB CLMP
M-LPF
NL E N DE
PLJM
REC DATA VITC
CHR MIX
CHR MIX 2
ART V.H
FSC TRAP
PORTABLE OFF
CAM
LINE
V. SEPA
V. MIX
Q3014 2SB1462 (PB-Y AMP)
Q3021 2SB1462
Q3012 2SD2216 (VHS EQ)
Q3009 2SC4627 (VHS EQ)
Q3008 2SC4627 (VHS EQ)
Q3010 2SC4627 (S-VHS RF AMP)
Q3006 2SD2216 (S-VHS RF AMP)
QR3008 UN9212 (LP • ON)
QR3015 UN9212 (LP ® • ON)
QR3005 UN9213 (LP ® • ON)
Q3003 2SC4627 (REC-Y AMP)
Q3004 2SD2216 (REC-Y AMP)
QR3002 UN9213 (VHS ® • ON)
QR3004 UN9211 (VHS ® • ON)
Q8009 2SD2216 (PB-C AMP)
VR3007 50KB
VR3008 500B
HA FREQ RESPONSE
X8001 VSX0419
4.43MHz
P. BURST
R-Y IN
R BLK
CL3011
CL3012
CL3002
CL3003
CL3001
CL3005
CL3006
CL3008
CL8001
CL8003
CL8008
TL3001
TL3003
TL3004
TL3005
TP8001
8
9
10
11
12
13
14
15
16
17
18
19
20

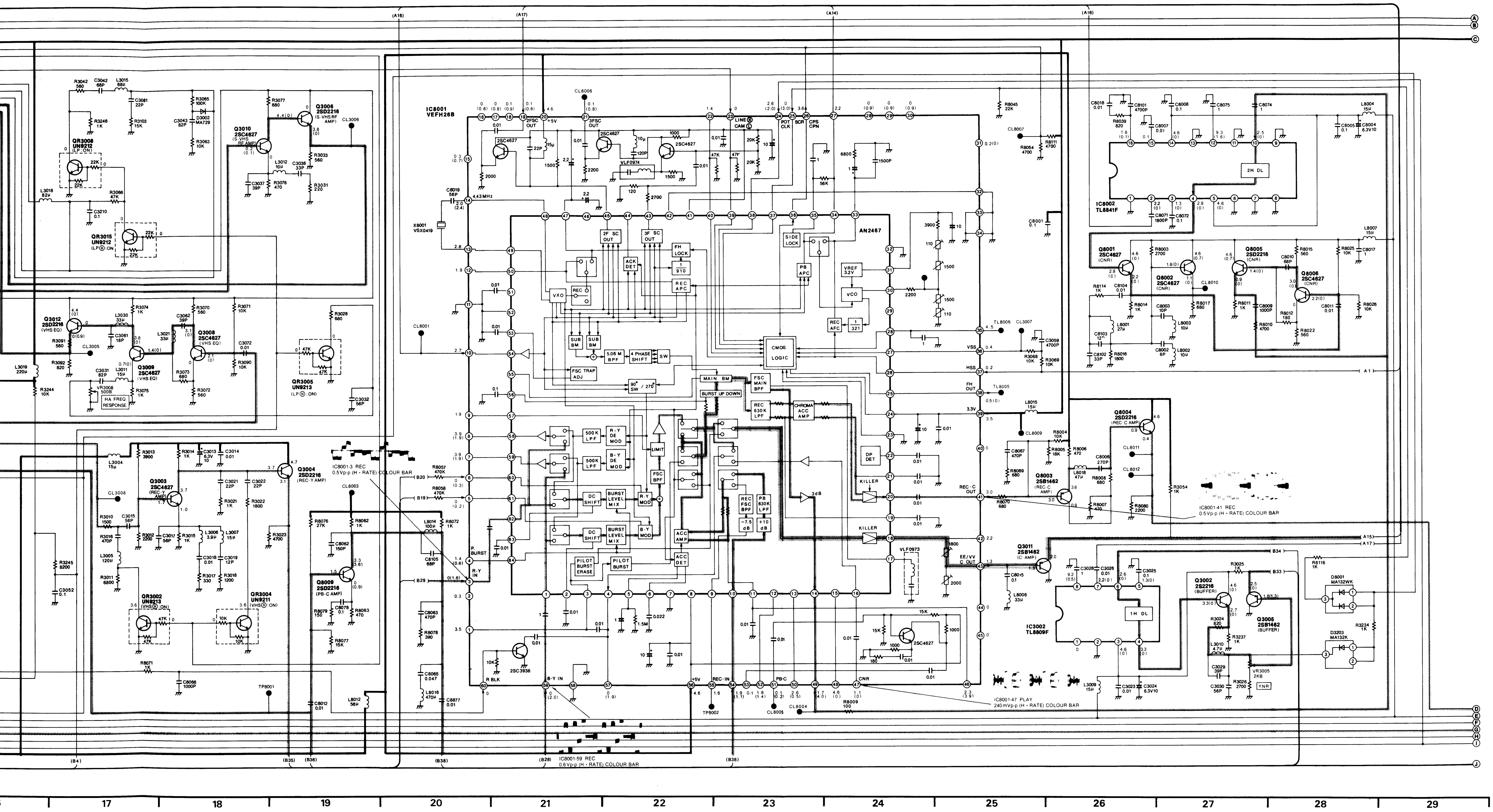
MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS PLAYBACK MODE
IGNAL.

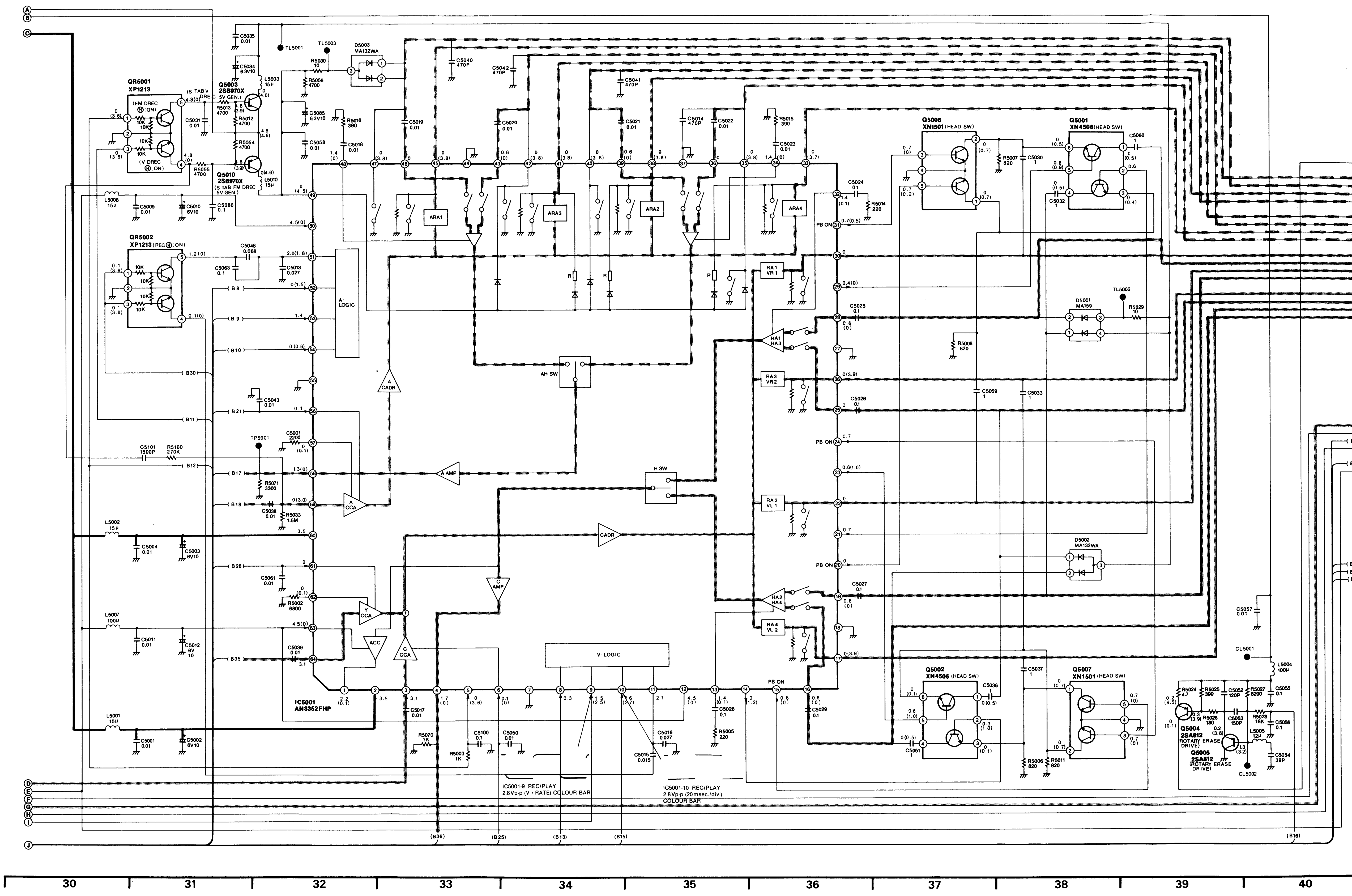
NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

ction

AUDIO MAIN SIGNAL PATH IN REC MODE

AUDIO MAIN SIGNAL PATH IN PLAYBACK MODE


IC8001
VEFH26B
AN2467
CMOS LOGIC
VXO
REC
2F SC OUT
3F SC OUT
ACK DET
FH LOCK
1/910
REC APC
SIDE LOCK
PB APC
VREF 3.2V
VCO
REC AFC
1/321
SUB BM
5.06 M BPF
4 PHASE SHIFT
SW
FSC TRAP ADJ
90° SW / 270°
MAIN BM
BURST UP DOWN
FSC MAIN BPF
REC 630K LPF
CHROMA ACC AMP
500K LPF
R-Y DE MOD
B-Y DE MOD
LIMIT
FSC BPF
DC SHIFT
BURST LEVEL MIX
R-Y MOD
B-Y MOD
ACC AMP
ACC DET
PILOT BURST ERASE
PILOT BURST
REC FSC BPF
PB 630K LPF
-7.5 dB
+10 dB
DP DET
KILLER
3dB
X8001 VSX0419
4.43 MHz
IC8002
TL8841F
2H DL
IC3002
TL8809F
1H DL
Q8001 2SC4627 (CNR)
Q8002 2SC4627 (CNR)
Q8005 2SD2216 (CNR)
Q8006 2SC4627 (CNR)
Q8004 2SD2216 (REC-C AMP)
Q8003 2SB1462 (REC-C AMP)
Q3011 2SB1462 (C-AMP)
Q3002 2SD2216 (BUFFER)
Q3005 2SB1462 (BUFFER)
D8001 MA132WK
D3203 MA132K
VR3005 2KB
YNR
Q3006 2SD2216 (S-VHS RF AMP)
Q3010 2SC4627 (S-VHS RF AMP)
QR3008 UN9212 (LP: ON)
QR3015 UN9212 (LP Ⓓ: ON)
Q3012 2SD2216 (VHS EQ)
Q3009 2SC4627 (VHS EQ)
Q3008 2SC4627 (VHS EQ)
QR3005 UN9213 (LP Ⓓ: ON)
HA FREQ RESPONSE
Q3003 2SC4627 (REC-Y AMP)
Q3004 2SD2216 (REC-Y AMP)
QR3002 UN9213 (VHS Ⓓ: ON)
QR3004 UN9211 (VHS Ⓓ: ON)
Q8009 2SD2216 (PB-C AMP)
2SC3938
2SC4627
VLF0974
VLF0973
CL8006
CL8007
CL8001
CL8003
CL8004
CL8005
CL8009
CL8010
CL8011
CL8012
CL3005
CL3006
CL3007
CL3008
TL8005
TL8006
TP8001
TP8002
IC8001-3 REC 0.5Vp-p (H - RATE) COLOUR BAR
IC8001-59 REC 0.6Vp-p (H - RATE) COLOUR BAR
IC8001-41 REC 0.5Vp-p (H - RATE) COLOUR BAR
IC8001-47 PLAY 240mVp-p (H - RATE) COLOUR BAR
LINE Ⓓ
CAM Ⓛ
POT CLK
SCR
CPS CPN
VSS
HSS
FH OUT
REC-C OUT
EE/VV C OUT
R-Y IN
P. BURST
R BLK
B-Y IN
REC-IN
PB-C
CNR
+5V
3.3V
Ⓐ
Ⓑ
Ⓒ
Ⓓ
Ⓔ
Ⓕ
Ⓖ
Ⓗ
Ⓘ
Ⓙ
(A16)
(A17)
(A14)
(A16)
A 1
A15
A 17
B34
B33
B20
B19
B29
(B4)
(B35)
(B36)
(B38)
(B28)
(B38)
17
18
19
20
21
22
23
24
25
26
27
28
29


A
B
C
D
E
F
G
H
I
J
QR5001
XP1213
(FM DREC Ⓡ ON)
(V-DREC Ⓡ ON)
(S-TAB V DREC 5V GEN.)
Q5003
2SB970X
Q5010
2SB970X
(S-TAB FM DREC 5V GEN.)
R5013 4700
R5012 4700
R5054 4700
R5055 4700
L5003 15μ
L5010 15μ
C5035 0.01
C5034 6.3V10
C5031 0.01
C5085 6.3V10
C5058 0.01
TL5001
TL5003
R5030 10
R5056 4700
D5003
MA132WA
R5016 390
C5018 0.01
C5019 0.01
C5040 470P
C5042 470P
C5020 0.01
C5041 470P
C5021 0.01
C5014 470P
C5022 0.01
R5015 390
C5023 0.01
L5008 15μ
C5009 0.01
C5010 6V10
C5086 0.1
QR5002
XP1213 (REC Ⓗ ON)
C5048 0.068
C5063 0.1
C5013 0.027
A-LOGIC
ARA1
ARA2
ARA3
ARA4
A CADR
AH SW
A-AMP
H SW
CADR
C AMP
Y CCA
A CCA
ACC
C CCA
V-LOGIC
C5043 0.01
C5001 2200
TP5001
C5101 1500P
R5100 270K
R5071 3300
C5038 0.01
R5033 1.5M
L5002 15μ
C5004 0.01
C5003 6V10
C5061 0.01
R5002 6800
L5007 100μ
C5011 0.01
C5012 6V 10
C5039 0.01
L5001 15μ
C5001 0.01
C5002 6V10
IC5001
AN3352FHP
C5017 0.01
R5070 1K
R5003 1K
C5100 0.1
C5050 0.01
C5016 0.027
C5015 0.015
C5028 0.1
R5005 220
C5029 0.1
IC5001-9 REC/PLAY
2.8Vp-p (V-RATE) COLOUR BAR
IC5001-10 REC/PLAY
2.8Vp-p (20msec./div.)
COLOUR BAR
(B36)
(B25)
(B13)
(B15)
(B16)
(B8)
(B9)
(B10)
(B30)
(B11)
(B21)
(B12)
(B17)
(B18)
(B26)
(B35)
PB ON
RA1 VR1
HA1 HA3
RA3 VR2
RA2 VL1
HA2 HA4
RA4 VL2
C5024 0.1
R5014 220
C5025 0.1
C5026 0.1
C5027 0.1
R5008 820
C5059 1
C5033 1
Q5006
XN1501 (HEAD SW)
R5007 820
C5030 1
Q5001
XN4506 (HEAD SW)
C5060 1
C5032 1
TL5002
D5001
MA159
R5029 10
D5002
MA132WA
C5057 0.01
CL5001
L5004 100μ
Q5002
XN4506 (HEAD SW)
C5036 1
C5051 1
C5037 1
Q5007
XN1501 (HEAD SW)
R5006 820
R5011 820
R5024 4.7
R5025 390
C5052 120P
R5027 8200
C5055 0.1
R5026 180
C5053 150P
R5028 18K
C5056 0.1
L5005 12μ
C5054 39P
Q5004
2SA812
(ROTARY ERASE DRIVE)
Q5005
2SA812
(ROTARY ERASE DRIVE)
CL5002
30
31
32
33
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37
38
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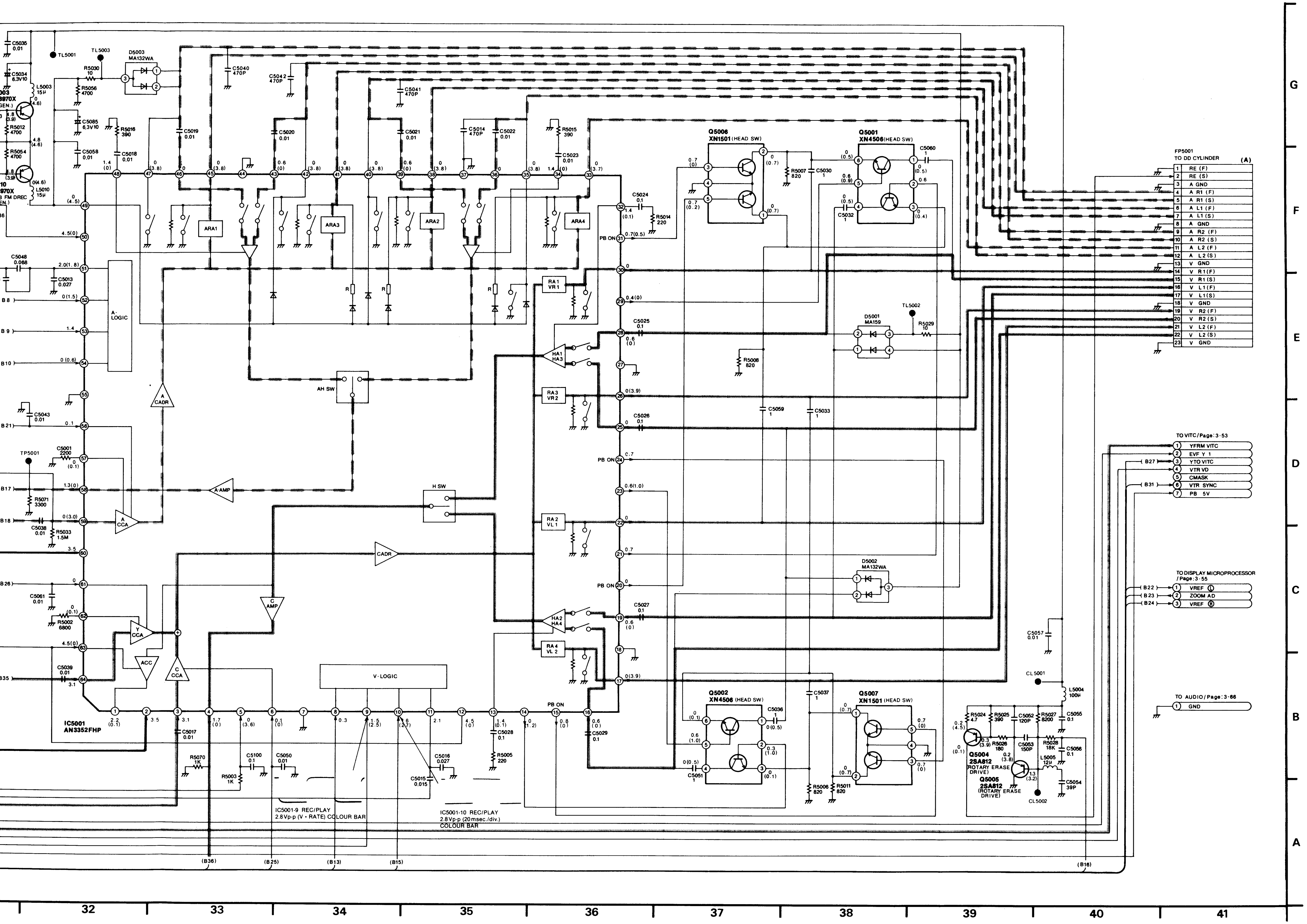
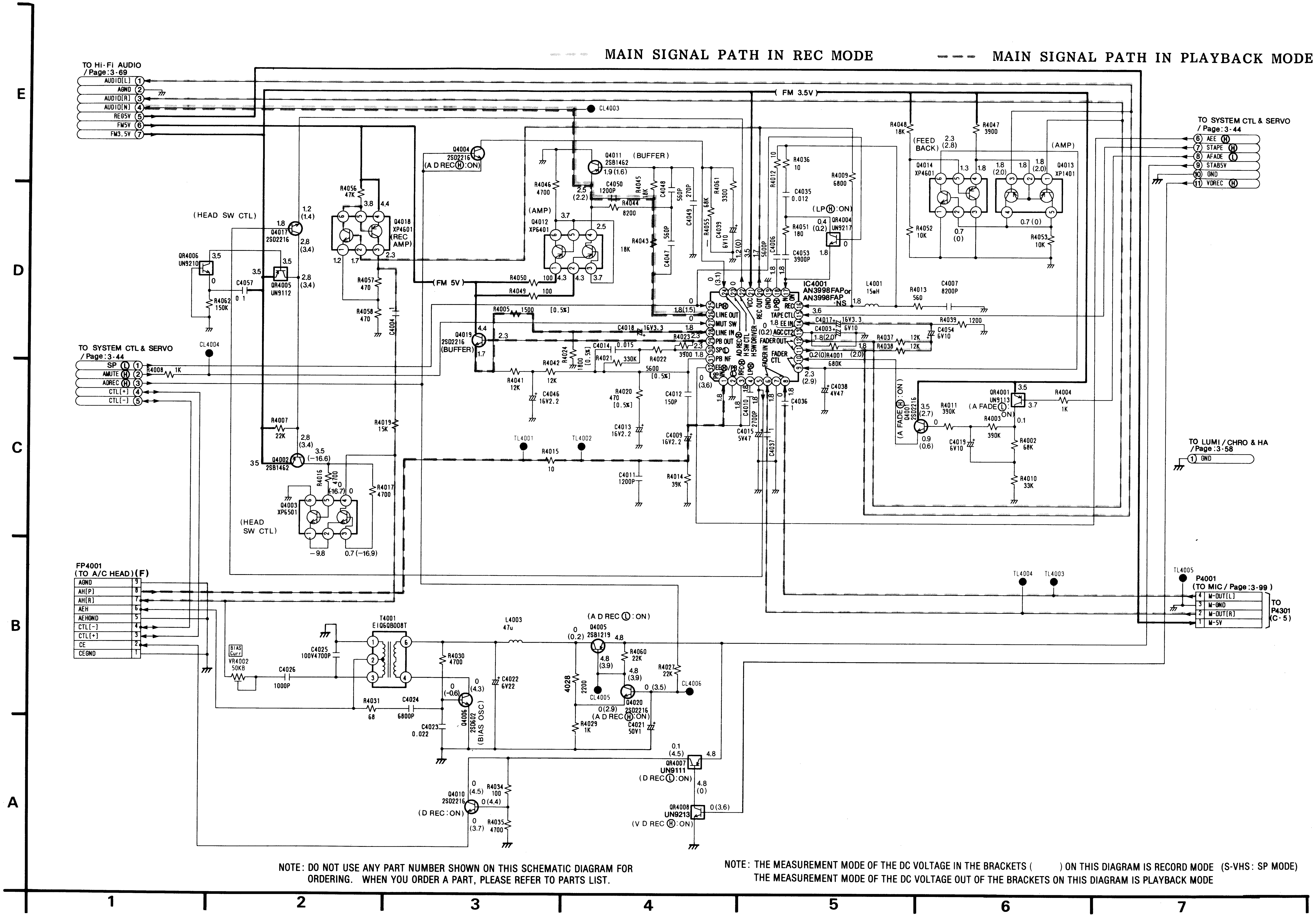

IC5001
AN3352FHP
Q5006
XN1501 (HEAD SW)
Q5001
XN4506 (HEAD SW)
Q5002
XN4506 (HEAD SW)
Q5007
XN1501 (HEAD SW)
Q5004
2SA812
(ROTARY ERASE DRIVE)
Q5005
2SA812
(ROTARY ERASE DRIVE)
D5003
MA132WA
D5001
MA159
D5002
MA132WA
TL5001
TL5002
TL5003
TP5001
CL5001
CL5002
A-LOGIC
V-LOGIC
ARA1
ARA2
ARA3
ARA4
AH SW
H SW
A-AMP
A CCA
A CADR
CADR
C AMP
Y CCA
C CCA
ACC
RA1 VR1
RA3 VR2
RA2 VL1
RA4 VL2
HA1 HA3
HA2 HA4
PB ON
FP5001
TO DD CYLINDER
(A)
1 RE (F)
2 RE (S)
3 A GND
4 A R1 (F)
5 A R1 (S)
6 A L1 (F)
7 A L1 (S)
8 A GND
9 A R2 (F)
10 A R2 (S)
11 A L2 (F)
12 A L2 (S)
13 V GND
14 V R1 (F)
15 V R1 (S)
16 V L1 (F)
17 V L1 (S)
18 V GND
19 V R2 (F)
20 V R2 (S)
21 V L2 (F)
22 V L2 (S)
23 V GND
TO VITC / Page: 3-53
1 YFRM VITC
2 EVF Y 1
3 YTO VITC
4 VTR VD
5 CMASK
6 VTR SYNC
7 PB 5V
TO DISPLAY MICROPROCESSOR / Page: 3-55
1 VREF ①
2 ZOOM AD
3 VREF ⑥
TO AUDIO / Page: 3-66
1 GND
IC5001-9 REC/PLAY
2.8Vp-p (V・RATE) COLOUR BAR
IC5001-10 REC/PLAY
2.8Vp-p (20msec./div.)
COLOUR BAR
(B36)
(B25)
(B13)
(B15)
(B18)
G
F
E
D
C
B
A
32
33
34
35
36
37
38
39
40
41

Next Page:
AUDIO Section

3-23. AUDIO SCHEMATIC DIAGRAM

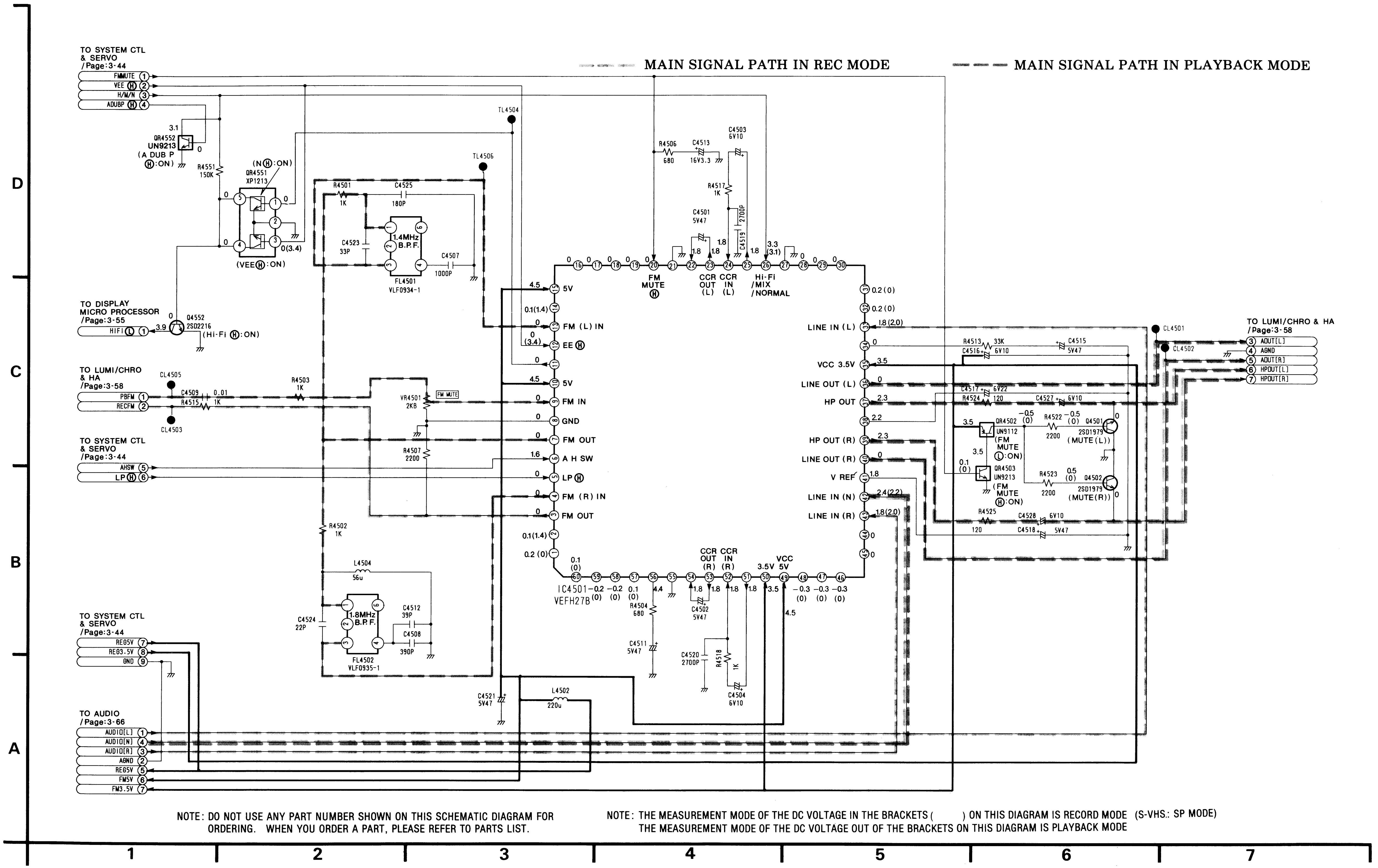


MAIN SIGNAL PATH IN REC MODE
MAIN SIGNAL PATH IN PLAYBACK MODE
TO Hi-Fi AUDIO / Page:3-69
AUDIO[L] 1
AGND 2
AUDIO[R] 3
AUDIO[N] 4
REG5V 5
FM5V 6
FM3.5V 7
CL4003
FM 3.5V
FM 5V
TO SYSTEM CTL & SERVO / Page:3-44
6 AEE Ⓗ
7 STAPE Ⓗ
8 AFADE Ⓛ
9 STAB5V
10 GND
11 VDREC Ⓗ
Q4004 2SD2216 (A D REC Ⓗ:ON)
Q4011 2SB1462 (BUFFER)
Q4012 XP6401 (AMP)
Q4017 2SD2216 (HEAD SW CTL)
Q4018 XP4601 (REC AMP)
QR4006 UN9210
QR4005 UN9112
Q4014 XP4601 (FEED BACK)
Q4013 XP1401 (AMP)
QR4004 UN9217 (LP Ⓗ:ON)
IC4001 AN3998FAP or AN3998FAP-NS
L4001 15μH
TO SYSTEM CTL & SERVO / Page:3-44
SP Ⓛ 1
AMUTE Ⓗ 2
ADREC Ⓗ 3
CTL[+] 4
CTL[-] 5
CL4004
Q4019 2SD2216 (BUFFER)
Q4002 2SB1462
Q4003 XP6501 (HEAD SW CTL)
QR4001 UN9113 (A FADE Ⓛ:ON)
Q4001 2SD2216 (A FADE Ⓗ:ON)
TO LUMI / CHRO & HA / Page:3-58
1 GND
TL4001
TL4002
TL4004
TL4003
TL4005
FP4001 (TO A/C HEAD) (F)
AGND 9
AH[P] 8
AH[R] 7
AEH 6
AEHGND 5
CTL[-] 4
CTL[+] 3
CE 2
CEGND 1
P4001 (TO MIC / Page:3-99)
4 M-OUT[L]
3 M-GND
2 M-OUT[R]
1 M-5V
TO P4301 (C-5)
T4001 EIQ6Q8008T
VR4002 50KB BIAS Curr
L4003 47u
Q4006 2SD602 (BIAS OSC)
Q4005 2SB1219 (A D REC Ⓛ:ON)
Q4020 2SD2216 (A D REC Ⓗ:ON)
CL4005
CL4006
QR4007 UN9111 (D REC Ⓛ:ON)
QR4008 UN9213 (V D REC Ⓗ:ON)
Q4010 2SD2216 (D REC:ON)
E
D
C
B
A
1
2
3
4
5
6
7

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS ( ) ON THIS DIAGRAM IS RECORD MODE (S-VHS: SP MODE)
THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS PLAYBACK MODE

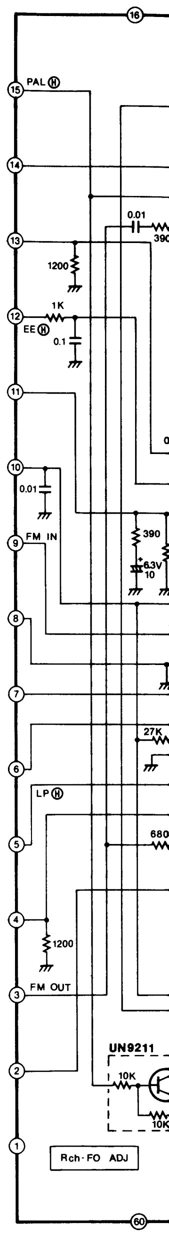
3-24. Hi-Fi AUDIO SCHEMATIC DIAGRAM


MAIN SIGNAL PATH IN REC MODE
MAIN SIGNAL PATH IN PLAYBACK MODE
TO SYSTEM CTL & SERVO /Page:3-44
FMMUTE ①
VEE Ⓗ ②
H/M/N ③
ADUBP Ⓗ ④
QR4552 UN9213 (A DUB P Ⓗ:ON)
R4551 150K
(NⒽ:ON) QR4551 XP1213
(VEEⒽ:ON)
TL4504
TL4506
R4501 1K
C4525 180P
C4523 33P
1.4MHz B.P.F.
FL4501 VLF0934-1
C4507 1000P
R4506 680
C4513 16V3.3
C4503 6V10
R4517 1K
C4501 5V47
C4519 2700P
FM MUTE Ⓗ
CCR OUT (L)
CCR IN (L)
Hi-Fi /MIX /NORMAL
TO DISPLAY MICRO PROCESSOR /Page:3-55
HIFI Ⓛ ①
Q4552 2SD2216 (Hi-Fi Ⓗ:ON)
TO LUMI/CHRO & HA /Page:3-58
PBFM ①
RECFM ②
CL4505
CL4503
C4509 0.01
R4515 1K
R4503 1K
VR4501 2KB
FM MUTE
R4507 2200
TO SYSTEM CTL & SERVO /Page:3-44
AHSW ⑤
LP Ⓗ ⑥
5V
FM (L) IN
EE Ⓗ
FM IN
GND
FM OUT
A H SW
LP Ⓗ
FM (R) IN
LINE IN (L)
VCC 3.5V
LINE OUT (L)
HP OUT
HP OUT (R)
LINE OUT (R)
V REF
LINE IN (N)
LINE IN (R)
R4502 1K
L4504 56u
1.8MHz B.P.F.
C4524 22P
C4512 39P
C4508 390P
FL4502 VLF0935-1
IC4501 VEFH27B
CCR OUT (R)
CCR IN (R)
VCC 3.5V 5V
R4504 680
C4502 5V47
C4511 5V47
C4520 2700P
R4518 1K
C4504 6V10
C4521 5V47
L4502 220u
TO SYSTEM CTL & SERVO /Page:3-44
RE05V ⑦
RE03.5V ⑧
GND ⑨
TO AUDIO /Page:3-66
AUDIO[L] ①
AUDIO[N] ④
AUDIO[R] ③
AGND ②
RE05V ⑤
FM5V ⑥
FM3.5V ⑦
R4513 33K
C4516 6V10
C4515 5V47
C4517 6V22
R4524 120
C4527 6V10
QR4502 UN9112 (FM MUTE Ⓛ:ON)
QR4503 UN9213 (FM MUTE Ⓗ:ON)
R4522 2200
Q4501 2SD1979 (MUTE(L))
R4523 2200
Q4502 2SD1979 (MUTE(R))
R4525 120
C4528 6V10
C4518 5V47
CL4501
CL4502
TO LUMI/CHRO & HA /Page:3-58
ADOUT[L] ③
AGND ④
ADOUT[R] ⑤
HPOUT[L] ⑥
HPOUT[R] ⑦
D
C
B
A
1
2
3
4
5
6
7

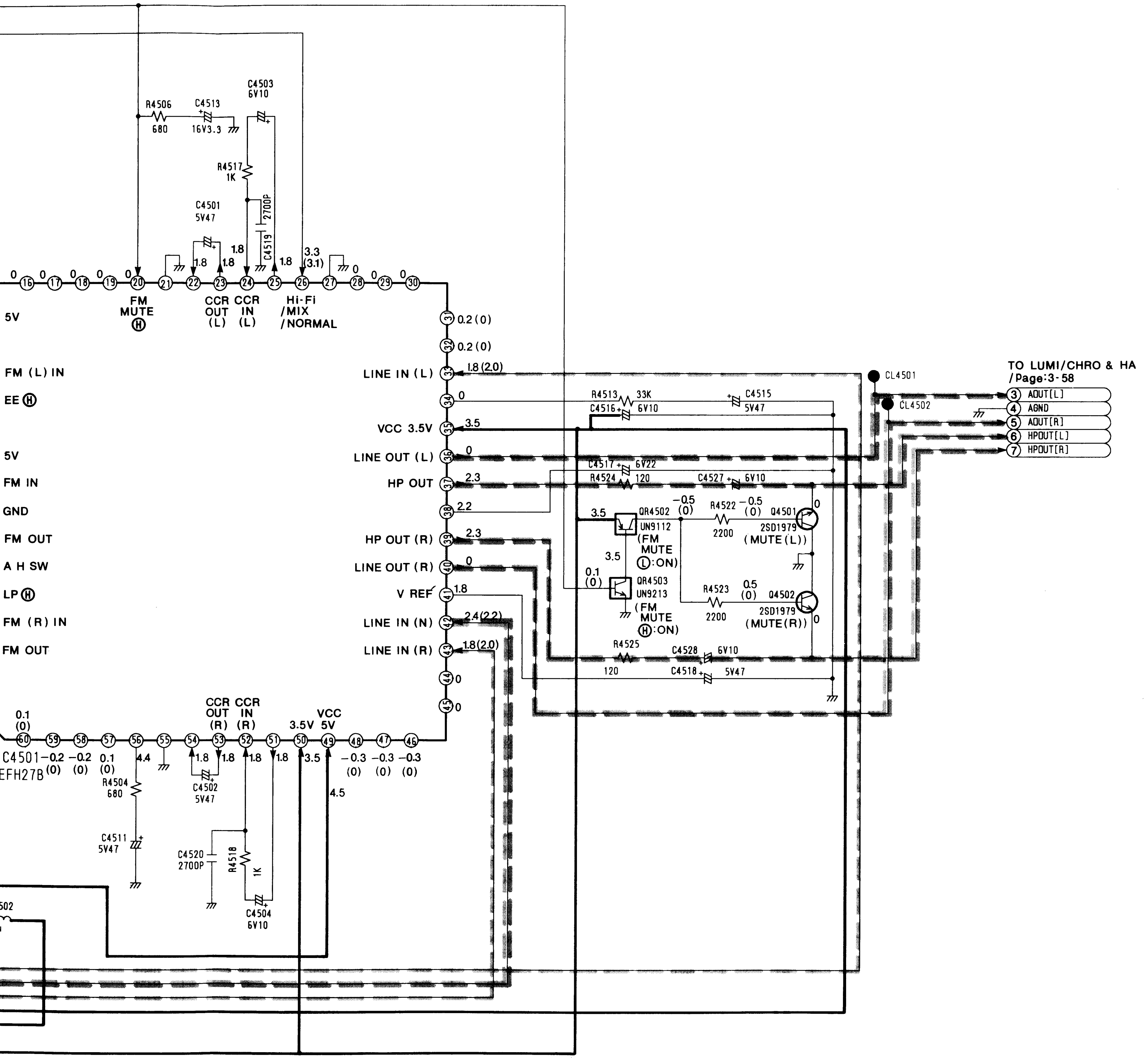
NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS ( ) ON THIS DIAGRAM IS RECORD MODE (S-VHS.: SP MODE)
THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS PLAYBACK MODE

IC BLOC
IC4501 (VEF


PAL Ⓗ
1200
0.01
390
1K
EE Ⓗ
0.1
FM IN
27K
LP Ⓗ
680
1200
FM OUT
UN9211
10K
Rch·FO ADJ

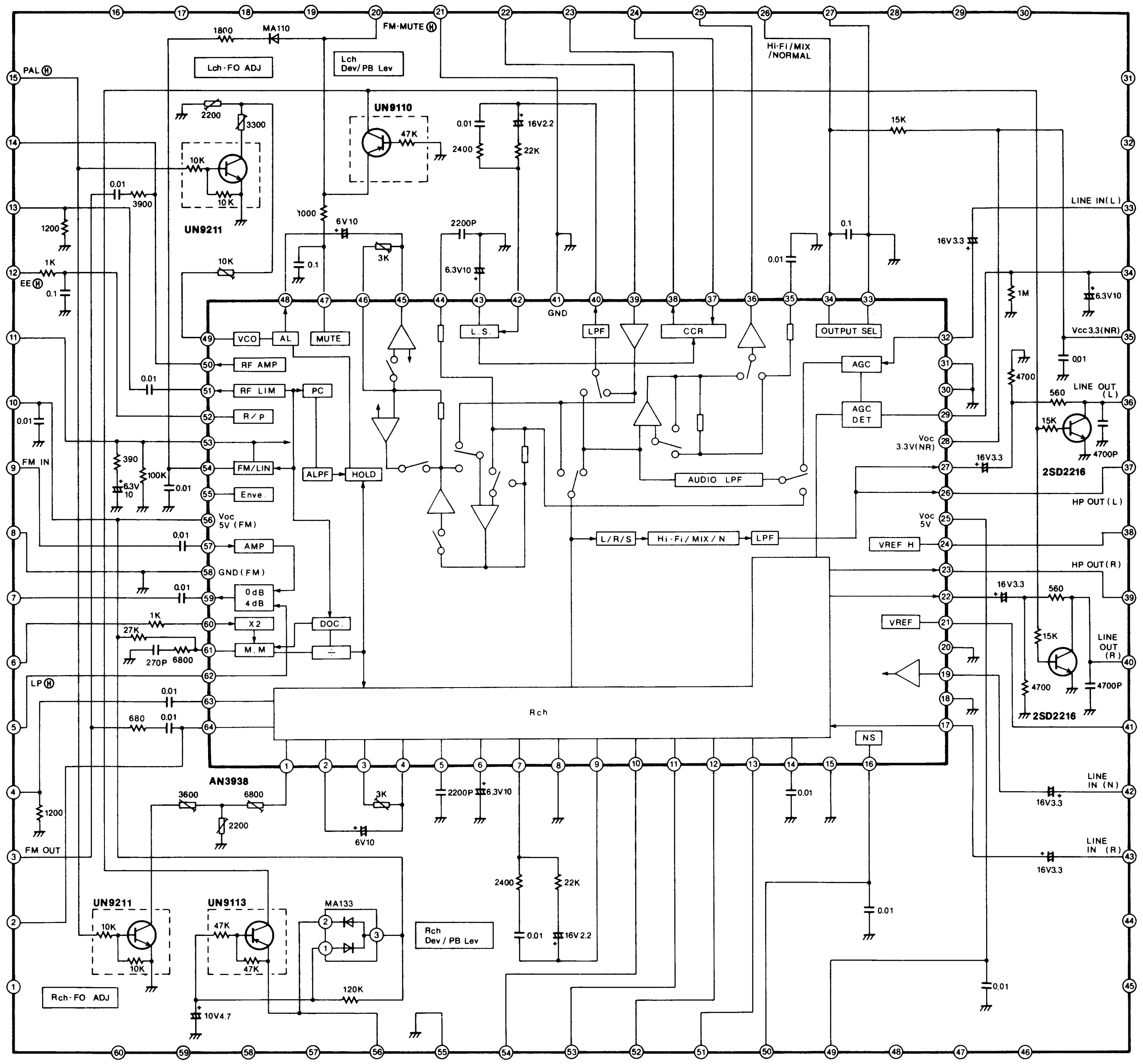
MAIN SIGNAL PATH IN REC MODE   MAIN SIGNAL PATH IN PLAYBACK MODE


FM MUTE Ⓗ
CCR OUT (L)
CCR IN (L)
Hi-Fi /MIX /NORMAL
R4506 680
C4513 16V3.3
C4503 6V10
R4517 1K
C4501 5V47
C4519 2700P
5V
FM (L) IN
EE Ⓗ
FM IN
GND
FM OUT
A H SW
LP Ⓗ
FM (R) IN
LINE IN (L)
VCC 3.5V
LINE OUT (L)
HP OUT
HP OUT (R)
LINE OUT (R)
V REF
LINE IN (N)
LINE IN (R)
CL4501
CL4502
TO LUMI/CHRO & HA /Page:3-58
③ AOUT[L]
④ AGND
⑤ AOUT[R]
⑥ HPOUT[L]
⑦ HPOUT[R]
R4513 33K
C4516 6V10
C4515 5V47
C4517 6V22
R4524 120
C4527 6V10
QR4502 UN9112 (FM MUTE Ⓛ:ON)
QR4503 UN9213 (FM MUTE Ⓗ:ON)
R4522 2200
Q4501 2SD1979 (MUTE(L))
R4523 2200
Q4502 2SD1979 (MUTE(R))
R4525 120
C4528 6V10
C4518 5V47
CCR OUT (R)
CCR IN (R)
3.5V
VCC 5V
IC4501 VEFH27B
R4504 680
C4502 5V47
C4511 5V47
C4520 2700P
R4518 1K
C4504 6V10

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS (   ) ON THIS DIAGRAM IS RECORD MODE (S-VHS.: SP MODE)
THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS PLAYBACK MODE

4	5	6	7

IC BLOCK
IC4501 (VEFH27B)


FM-MUTE Ⓗ
Hi-Fi/MIX /NORMAL
Lch-FO ADJ
Lch Dev/PB Lev
UN9110
UN9211
PAL Ⓗ
EE Ⓗ
FM IN
LINE IN (L)
Vcc 3.3(NR)
LINE OUT (L)
2SD2216
HP OUT (L)
HP OUT (R)
LINE OUT (R)
LINE IN (N)
LINE IN (R)
VCO
AL
MUTE
RF AMP
RF LIM
R/P
PC
FM/LIN
ALPF
HOLD
Enve
AMP
0dB 4dB
X2
M.M
DOC
L.S
LPF
CCR
OUTPUT SEL
AGC
AGC DET
AUDIO LPF
L/R/S
Hi-Fi/MIX/N
VREF H
VREF
NS
Rch
GND
AN3938
LP Ⓗ
FM OUT
UN9211
UN9113
MA133
Rch Dev/PB Lev
Rch-FO ADJ

Next Page:
VTR MAIN C.B.A. Section

VTR MAIN C.B.A.

Integrated Circuit

IC3001	B-4
IC3002	A-2
IC3003	B-11
IC3005	A-12
IC3801	D-11
IC3802	D-10
IC3803	C-10
IC3804	D-10
IC3805	D-3
IC4001	E-8
IC4501	E-6
IC5001	B-9
IC6001	E-13
IC6002	D-1
IC6003	F-12
IC6004	F-13
IC6005	E-14
IC6007	D-3
IC6008	F-13
IC6013	E-14
IC6015	E-2
IC6016	E-1
IC6181	D-10
IC6201	E-11
IC6202	E-11
IC6203	F-12
IC8001	B-2
IC8002	B-13

Transistor

Q3001	B-14
Q3002	A-3
Q3003	C-12
Q3004	B-12
Q3005	B-13
Q3006	B-11
Q3008	B-10
Q3009	C-11
Q3010	B-11
Q3011	C-3
Q3012	B-11
Q3014	B-3
Q3021	B-11
Q3204	C-11
Q3805	D-10
Q4001	E-9
Q4002	E-9
Q4003	D-9
Q4004	F-10
Q4005	C-6
Q4006	C-6
Q4010	C-9
Q4011	F-8
Q4012	F-8
Q4013	E-9
Q4014	E-9
Q4017	E-8
Q4018	E-9
Q4019	E-8
Q4020	C-9
Q4501	F-9
Q4502	F-9
Q4552	E-10
Q5001	A-9
Q5002	A-8
Q5003	C-6
Q5004	A-10
Q5005	A-10
Q5006	A-9
Q5007	A-9
Q5010	C-5
Q6001	F-2
Q6002	E-3
Q6101	C-13
Q6105	D-10
Q6181	E-5
Q6204	F-11
Q6205	D-11
Q6208	D-11
Q6209	F-12
Q8001	A-14
Q8002	B-13
Q8003	C-13
Q8004	C-13
Q8005	A-13
Q8006	A-13
Q8009	C-13

Transistor & Resistor

QR3001	B-12
QR3002	B-3
QR3004	C-12
QR3005	C-3
QR3008	A-11
QR3009	B-3
QR3010	B-11
QR3013	B-12
QR3014	B-12
QR3015	A-11
QR3016	B-12
QR3019	B-12
QR3204	B-12
QR3205	B-12
QR3801	C-10
QR4001	E-9
QR4004	E-9
QR4005	F-9
QR4006	E-9
QR4007	C-9
QR4008	D-9
QR4502	F-8
QR4503	F-8
QR4551	E-9
QR4552	E-10
QR5001	C-9
QR5002	B-6
QR6001	F-2
QR6002	C-14
QR6003	F-13
QR6004	E-14
QR6005	E-2
QR6010	F-12
QR6013	C-2
QR6014	C-2
QR6015	C-2
QR6019	F-14
QR6023	C-14
QR6024	D-3
QR6025	D-3
QR6026	E-14
QR6027	E-14
QR6028	D-14
QR6029	D-11
QR6101	D-14
QR6105	D-9
QR6181	D-5
QR6202	F-3
QR8101	B-13
QR8103	C-13

Diode

D3001	A-11
D3002	A-10
D3003	B-12
D3004	C-12
D3202	B-12
D3203	B-12
D3204	F-6
D3205	D-4
D3801	D-11
D5001	A-7
D5002	B-7
D5003	B-6
D6001	E-1
D6003	D-14
D6005	D-1
D6007	E-14
D6009	E-2
D6013	D-2
D6015	E-2
D6016	D-14
D6020	E-1
D6021	E-2
D6022	E-1
D6023	F-1
D6024	E-2
D6030	F-14
D6031	F-14
D6035	D-10
D6040	F-12
D6201	F-11
D6202	E-11
D6204	E-11
D6206	E-4
D6207	F-12
D8001	B-13

Transformer

T4001	D-6

Test Point

CL3001	B-5
CL3002	A-4
CL3003	B-5
CL3004	F-1
CL3005	B-4
CL3006	B-4
CL3007	B-3
CL3008	C-3
CL3009	A-4
CL3011	B-3
CL3012	D-3
CL3013	B-5
CL3014	B-5
CL3801	D-4
CL3802	D-4
CL4003	F-7
CL4004	D-5
CL4005	C-6
CL4006	D-5
CL4501	F-7
CL4502	F-7
CL4503	E-5
CL4505	E-5
CL5001	B-5
CL5002	A-5
CL6001	D-3
CL6002	D-2
CL6003	D-3
CL6004	D-2
CL6005	D-2
CL6006	E-2
CL6007	D-2
CL6008	C-2
CL6009	D-3
CL6010	E-3
CL6011	D-2
CL6012	C-2
CL6013	E-3
CL6014	F-2
CL6015	E-2
CL6016	C-3
CL6017	B-3
CL6018	E-2
CL6019	C-2
CL6020	E-3
CL6021	D-1
CL6022	F-3
CL6023	D-3
CL6024	D-1
CL6025	D-3
CL6026	E-2
CL6105	D-3
CL6107	E-3
CL6108	D-3
CL6205	D-4
CL6206	F-4
CL6207	E-4
CL8001	A-2
CL8003	C-3
CL8004	C-2
CL8005	C-2
CL8006	A-2
CL8007	A-2
CL8008	B-5
CL8009	B-3
CL8010	C-2
CL8011	C-3
CL8012	C-3
TL3001	C-5
TL3003	C-4
TL3004	B-5
TL3005	B-3
TL4001	D-6
TL4002	D-6
TL4003	C-6
TL4004	C-6
TL4005	C-6
TL4504	E-5
TL4506	D-5
TL5001	A-7
TL5002	A-7
TL5003	C-6
TL6001	F-1
TL6201	E-5
TL8001	A-2
TL8002	C-2
TL8005	B-3
TL8006	B-3
TP5001	C-6
TP8001	B-4

Adjustment

C6202	E-4
VR3004	B-3
VR3005	B-3
VR3006	B-3
VR3007	C-4
VR3008	C-3
VR3801	C-3
VR4002	D-5
VR4501	E-5
VR6201	D-3

Connector

B3001	F-1
B6001	E-14
B6007	E-2
FP3002	F-6
FP3003	D-1
FP4001	D-6
FP5001	A-6
FP6001	F-2
FP6002	F-3
FP6004	D-13
FP6201	A-3
FP6202	E-4
P4001	A-8

Crystal Oscillator

X3801	C-4
X6001	E-3
X6002	F-3
X6201	F-4
X6202	F-4
X8001	A-1

Filter

FL3001	C-11
FL4501	D-5
FL4502	F-5

Coil

L3001	A-12
L3002	B-12
L3003	B-10
L3004	C-12
L3005	C-12
L3006	C-12
L3007	C-12
L3009	A-12
L3010	A-12
L3011	C-3
L3012	B-11
L3015	A-11
L3017	A-11
L3018	C-10
L3019	B-10
L3021	B-11
L3024	A-12
L3026	B-12
L3027	F-6
L3030	B-11
L3802	C-10
L4001	E-5
L4003	C-6
L4502	E-9
L4504	F-10
L5001	C-10
L5002	C-6
L5003	C-6
L5004	A-10
L5005	A-10
L5007	B-9
L5008	C-9
L5010	B-10
L6181	E-5
L6201	E-4
L8001	B-13
L8002	B-13
L8003	A-13
L8004	B-14
L8006	C-3
L8007	B-14
L8012	B-14
L8014	C-13
L8015	C-13
L8016	C-14
L8018	C-13

Capacitor

C3002	B-3
C3003	C-4
C3004	C-5
C3005	B-10
C3006	B-11
C3007	B-3
C3008	B-4
C3009	B-3
C3010	B-4
C3011	B-3
C3012	B-3
C3013	C-12
C3014	C-12
C3015	B-12
C3016	C-12
C3017	C-12
C3018	C-13
C3019	C-12
C3021	B-3
C3022	B-12
C3023	A-3
C3024	A-13
C3025	A-2
C3026	A-2
C3028	A-2
C3029	A-12
C3030	A-13
C3031	C-3
C3032	C-3
C3033	C-4
C3036	B-11
C3037	B-10
C3041	B-10
C3042	A-10
C3043	A-11
C3044	B-10
C3045	A-11
C3046	A-12
C3047	A-11
C3048	A-11
C3049	A-11
C3050	A-11
C3051	A-11
C3052	B-10
C3054	A-4
C3055	A-11
C3059	B-13
C3060	C-4
C3061	B-11
C3062	C-10
C3063	B-10
C3065	B-10
C3071	A-11
C3072	B-10
C3075	A-12
C3081	A-10
C3083	A-12
C3085	B-12
C3087	B-12
C3208	B-12
C3209	A-3
C3210	A-11
C3211	A-11
C3214	B-11
C3215	B-3
C3801	C-11
C3805	C-4
C3809	C-10
C3811	C-10
C3815	D-5
C3820	D-5
C3821	C-4
C3822	C-4
C3824	D-4
C3825	C-11
C3826	D-10
C3830	D-4
C3831	D-3
C4003	E-9
C4004	F-9
C4006	E-9
C4007	E-9
C4009	D-8
C4010	E-8
C4011	D-8
C4012	E-8
C4013	D-8
C4014	E-8
C4015	D-5
C4017	E-9
C4018	E-8
C4019	D-9
C4021	D-5
C4022	C-9
C4023	C-6
C4024	C-5
C4025	D-9
C4026	D-5
C4035	E-9
C4036	D-9
C4037	D-8
C4038	D-6
C4039	E-8
C4046	E-8
C4047	E-8
C4048	E-8
C4049	F-8
C4050	E-8
C4053	E-9
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R4010	D-9
R4011	E-9
R4012	E-9
R4013	E-9
R4014	D-8
R4015	D-6
R4016	D-9
R4017	D-9
R4019	D-9
R4020	E-8
R4021	E-8
R4022	E-8
R4023	E-8
R4024	E-7
R4027	D-9
R4028	C-9
R4029	C-9
R4030	C-5
R4031	C-5
R4034	C-9
R4035	D-9
R4036	E-9
R4037	E-9
R4038	E-9
R4039	E-9
R4041	E-8
R4042	E-8
R4043	E-8
R4044	E-8
R4045	E-8
R4046	F-8
R4047	E-9
R4048	D-9
R4049	E-8
R4050	E-8
R4051	F-9
R4052	D-10
R4053	E-10
R4055	E-8
R4056	E-9
R4057	F-9
R4058	F-9
R4060	C-6
R4061	E-8
R4062	E-9
R4501	D-5
R4502	E-5
R4503	E-5
R4504	F-5
R4506	D-9
R4507	E-10
R4513	E-7
R4515	E-5
R4517	E-9
R4518	F-6
R4522	F-8
R4523	F-8
R4524	F-9
R4525	F-9
R4551	E-10
R5001	B-9
R5002	C-9
R5003	C-9
R5005	B-9
R5006	A-9
R5007	A-9
R5008	A-9
R5011	A-9
R5012	C-9
R5013	C-9
R5014	A-9
R5015	B-10
R5016	B-10
R5024	A-10
R5025	A-10
R5026	A-10
R5027	A-10
R5028	A-10
R5029	A-7
R5030	B-6
R5033	B-6
R5054	C-6
R5055	C-6
R5056	B-9
R5070	B-6
R5071	C-6
R5072	C-9
R5100	C-9
R6001	E-2
R6002	F-2
R6003	E-2
R6004	E-1
R6005	F-13
R6006	F-12
R6007	C-12
R6008	F-3
R6009	E-2
R6010	E-2
R6011	E-2
R6012	F-13
R6013	E-2
R6014	E-2
R6015	F-12
R6016	E-2
R6017	E-2
R6018	E-14
R6019	E-14
R6020	F-13
R6021	F-14
R6022	E-14
R6023	D-3
R6024	D-3
R6025	F-2
R6026	E-3
R6027	E-14
R6028	D-14
R6029	E-3
R6030	F-2
R6031	F-2
R6032	F-2
R6034	D-3
R6035	D-14
R6036	D-14
R6037	E-14
R6038	F-2
R6039	F-2
R6040	E-14
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R6043	D-14
R6044	D-14
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R6047	E-14
R6048	E-14
R6049	D-3
R6050	E-14
R6051	D-5
R6052	E-14
R6053	D-3
R6055	F-12
R6057	E-14
R6059	D-3
R6061	D-3
R6063	C-2
R6070	F-12
R6072	E-2
R6073	F-12
R6074	C-12
R6075	F-14
R6076	D-3
R6077	D-3
R6079	E-3
R6080	E-3
R6081	E-3
R6082	D-3
R6083	F-3
R6084	F-13
R6085	F-13
R6087	E-14
R6090	E-12
R6092	E-12
R6093	E-2
R6094	D-13
R6095	D-14
R6096	D-14
R6097	D-11
R6100	F-13
R6101	F-13
R6102	F-13
R6105	F-14
R6106	F-14
R6109	D-3
R6110	D-3
R6111	D-3
R6112	D-3
R6114	D-3
R6115	D-3
R6116	C-3
R6117	F-14
R6118	D-3
R6120	D-2
R6121	C-12
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R6123	D-13
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R6125	D-2
R6126	C-13
R6127	D-3
R6128	D-2
R6129	E-3
R6130	D-2
R6131	D-2
R6132	D-14
R6133	E-1
R6134	C-12
R6135	D-13
R6136	D-3
R6137	D-14
R6138	D-2
R6140	C-14
R6141	E-2
R6142	D-3
R6143	D-3
R6144	C-2
R6145	E-3
R6147	F-14
R6148	D-12
R6151	E-2
R6160	F-12
R6161	F-13
R6162	D-10
R6163	D-10
R6164	D-10
R6181	D-5
R6182	D-10
R6184	D-4
R6186	D-10
R6187	D-10
R6188	D-5
R6189	D-10
R6190	D-10
R6204	E-11
R6205	E-4
R6206	E-4
R6207	E-4
R6208	E-4
R6209	E-4
R6210	E-4
R6211	E-4
R6212	E-4
R6213	E-11
R6214	E-11
R6215	E-4
R6217	D-4
R6219	F-11
R6220	D-4
R6221	F-11
R6222	F-11
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R6236	E-5
R6238	E-12
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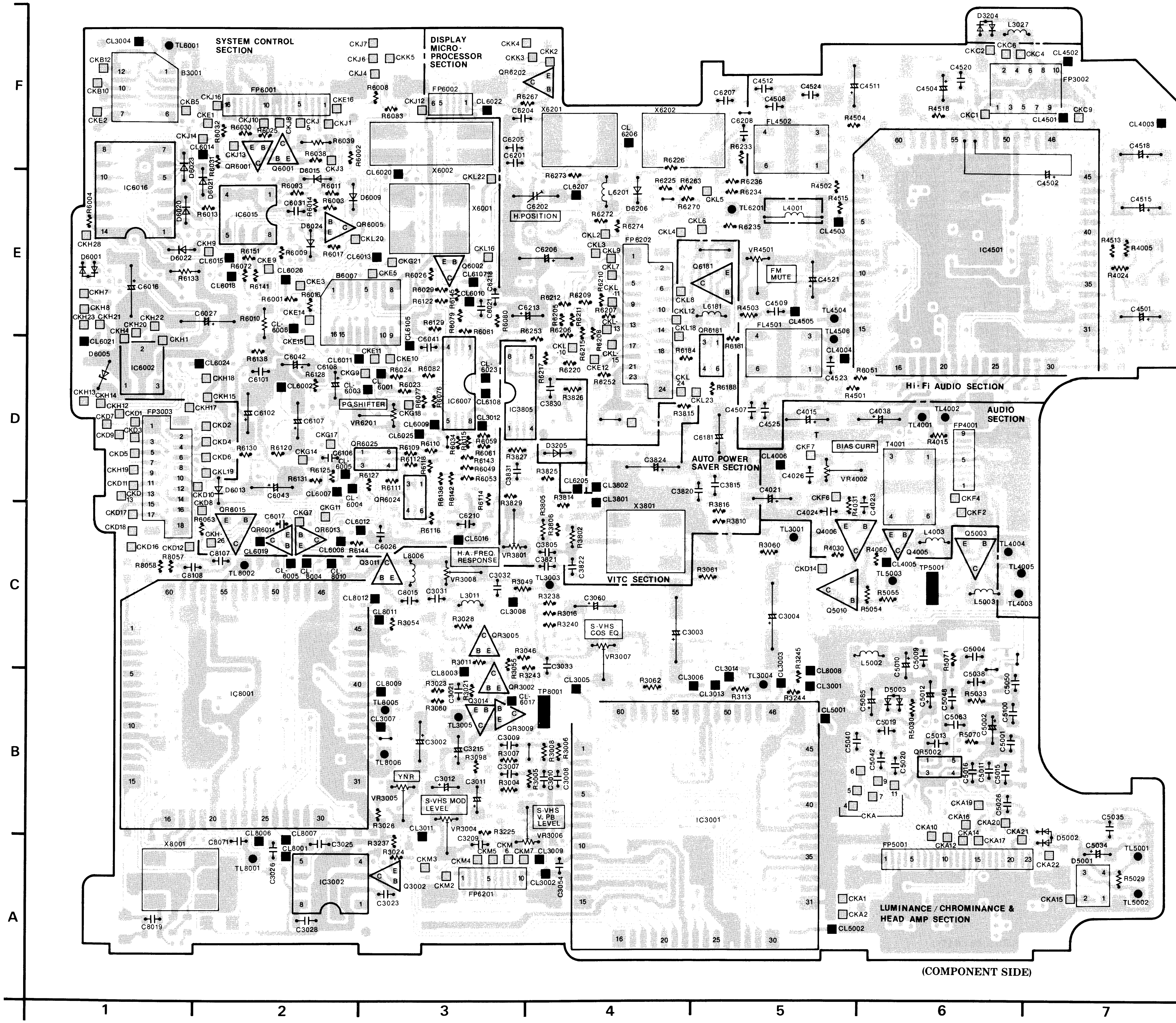
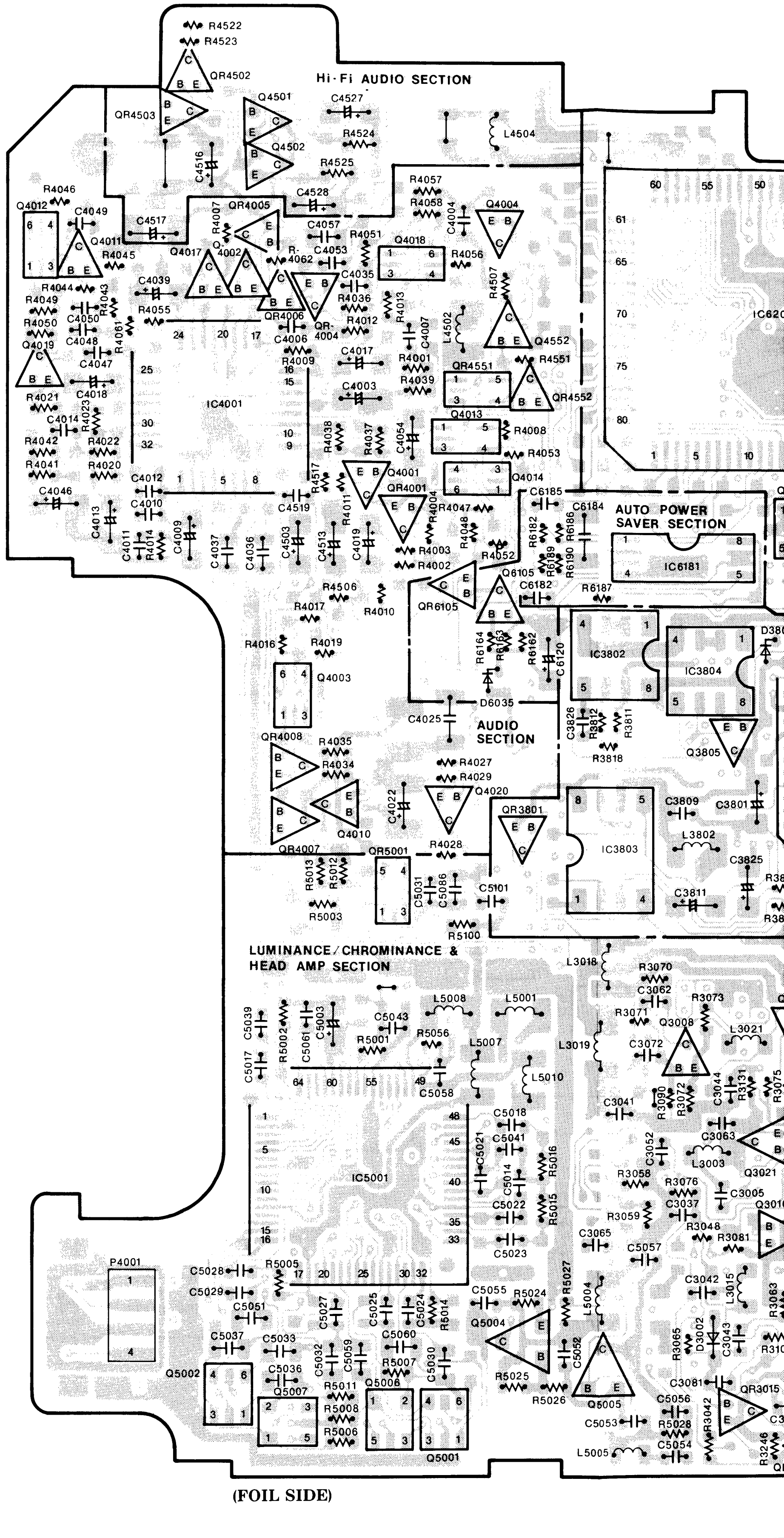
R6252	D-4
R6253	D-4
R6263	E-4
R6266	F-12
R6267	F-3
R6270	E-4
R6272	E-4
R6273	E-4
R6274	E-4
R8003	B-13
R8004	C-13
R8005	C-13
R8006	C-13
R8007	C-13
R8008	C-13
R8009	B-13
R8010	B-13
R8011	A-13
R8012	A-13
R8014	A-13
R8015	A-13
R8016	B-13
R8017	B-13
R8022	A-13
R8025	A-13
R8026	A-13
R8039	A-13
R8044	B-13
R8045	B-13
R8054	B-13
R8057	C-1
R8058	C-1
R8062	C-13
R8063	C-14
R8069	C-13
R8070	C-13
R8071	C-14
R8072	C-13
R8076	C-13
R8077	C-14
R8078	C-14
R8079	C-14
R8080	C-13
R8111	B-13
R8114	A-14
R8115	B-13
R8116	B-13

3-25. VTR MAIN [SYSTEM CONTROL & SERVO, LUMINACE/CHROMINANCE & HEAD AMP, AUDIO, Hi-Fi AUDIO Section] C.B.A. (VEP03A55A)



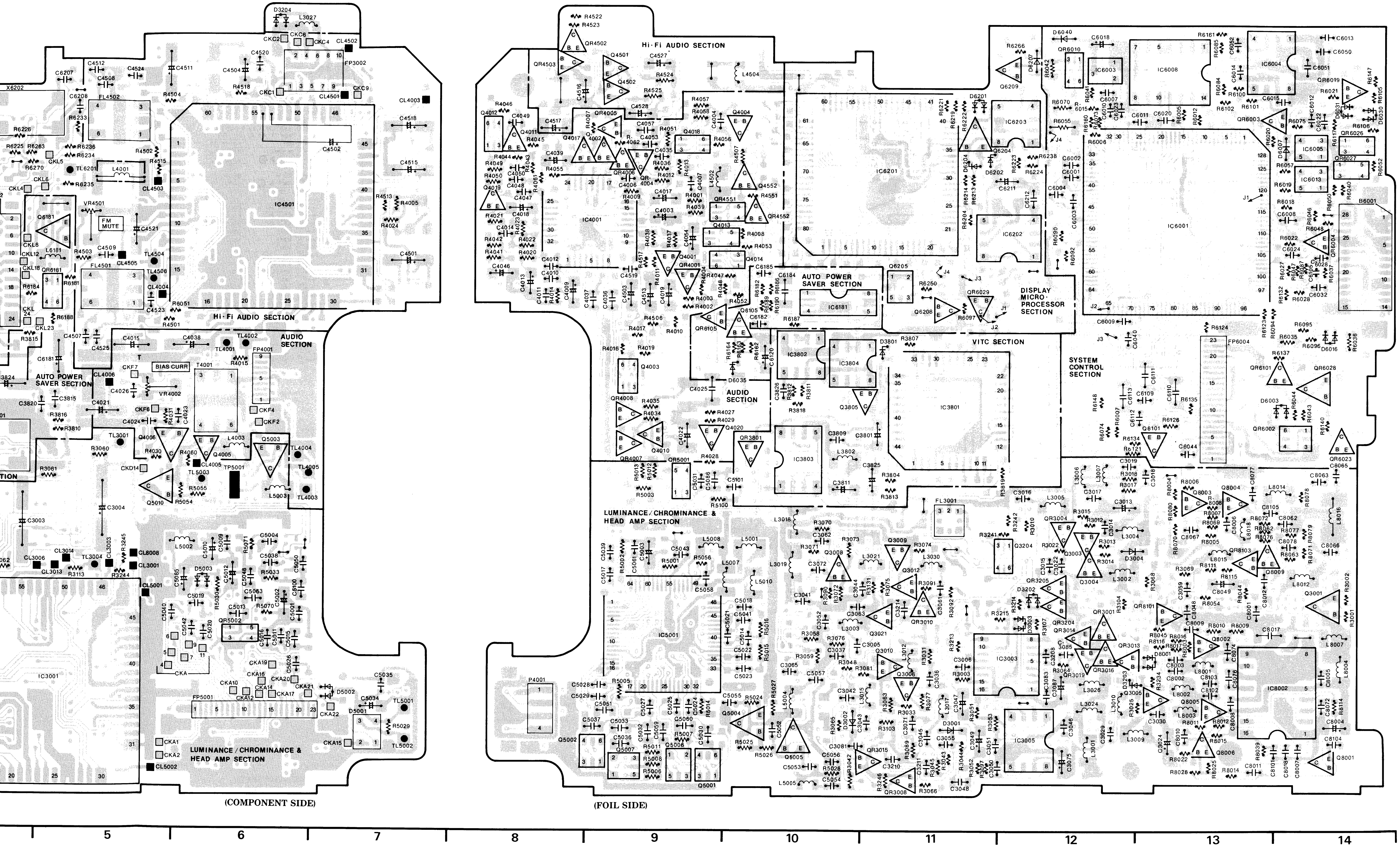
SYSTEM CONTROL SECTION
DISPLAY MICRO-PROCESSOR SECTION
H.POSITION
PG.SHIFTER
FM MUTE
AUTO POWER SAVER SECTION
Hi-Fi AUDIO SECTION
AUDIO SECTION
BIAS CURR
H.A. FREQ. RESPONSE
VITC SECTION
S-VHS COS EQ
YNR
S-VHS MOD LEVEL
S-VHS V. PB LEVEL
LUMINANCE/CHROMINANCE & HEAD AMP SECTION
IC6016
IC6015
IC6002
IC6007
IC3805
IC8001
IC3002
IC3001
IC4501
F
E
D
C
B
A
1
2
3
4
5
6
7

(COMPONENT SIDE)



Hi-Fi AUDIO SECTION
AUTO POWER SAVER SECTION
AUDIO SECTION
LUMINANCE/CHROMINANCE & HEAD AMP SECTION
IC4001
IC6181
IC3802
IC3804
IC3803
IC5001
8
9
10

(FOIL SIDE)


Hi-Fi AUDIO SECTION
AUDIO SECTION
AUTO POWER SAVER SECTION
LUMINANCE/CHROMINANCE & HEAD AMP SECTION
DISPLAY MICRO-PROCESSOR SECTION
SYSTEM CONTROL SECTION
VITC SECTION
FM MUTE
BIAS CURR
IC4501
IC4001
IC3001
IC5001
IC6201
IC6202
IC6203
IC6001
IC6004
IC6008
IC6181
IC3801
IC3802
IC3803
IC3804
IC3003
IC3005
IC8002
5
6
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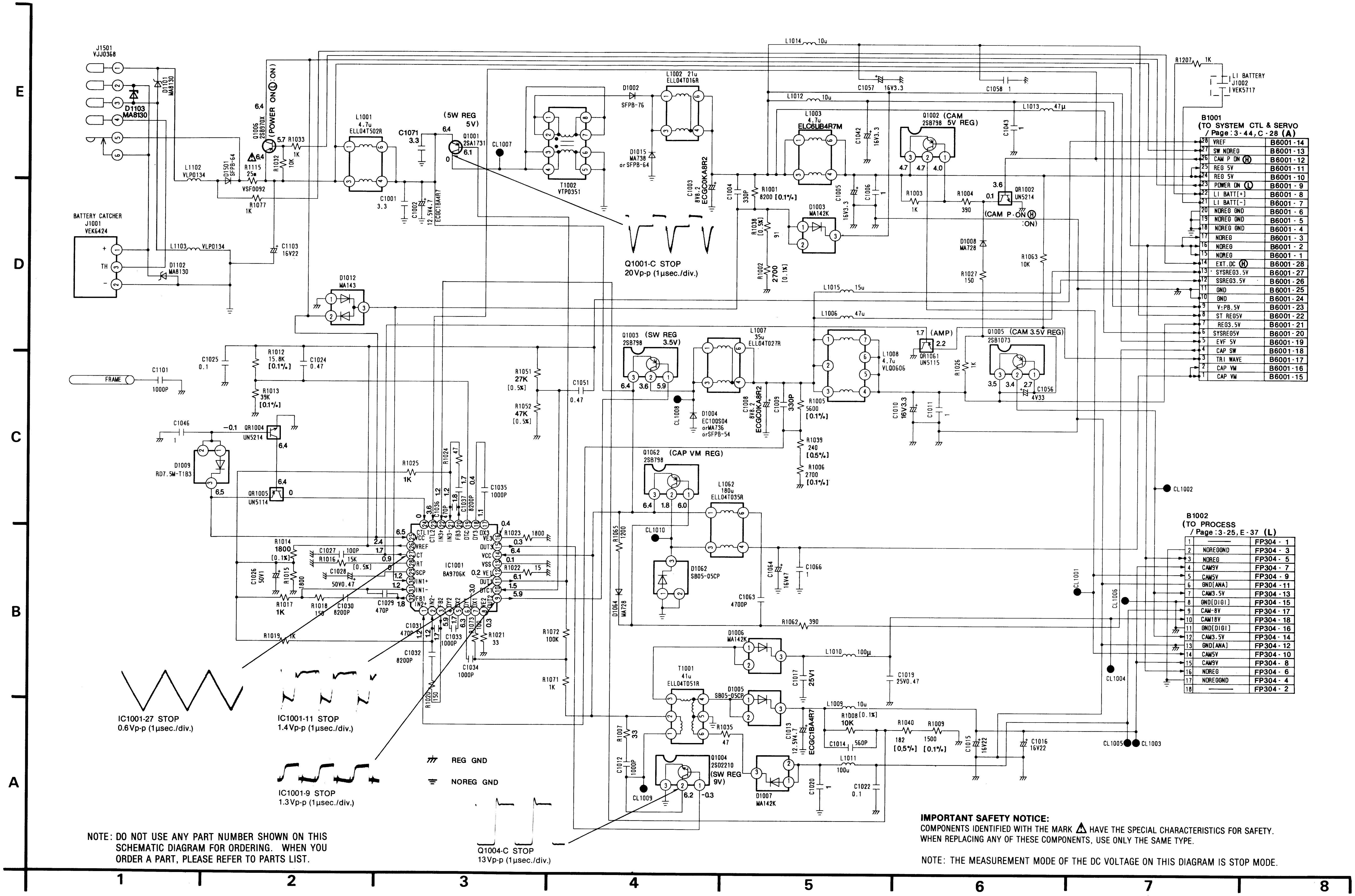
13
14

(COMPONENT SIDE)

(FOIL SIDE)

Next Page:
POWER Section

3-26. POWER SCHEMATIC DIAGRAM



J1501 VJJ0368
D1101 MA8130
D1103 MA8130
BATTERY CATCHER J1001 VEK6424
L1102 VLP0134
L1103 VLP0134
D1102 MA8130
C1103 16V22
Q1006 2SB970X (POWER ON Ⓛ:ON)
D1501 SFPB-64
R1115 25m
VSF0092
R1077 1K
R1033 1K
R1032 10K
L1001 4.7u ELL04T502R
C1071 3.3
C1001 3.3
C1002 12.5V4.7 ECGC1BA4R7
(5W REG 5V)
Q1001 2SA1731
CL1007
D1002 SFPB-76
L1002 21u ELL04T016R
T1002 VTP0351
D1015 MA738 or SFPB-64
C1003 8V8.2 ECGC0KA8R2
Q1001-C STOP
20Vp-p (1µsec./div.)
L1014 10u
L1012 10u
L1003 4.7u ELC6UB4R7M
C1057 16V3.3
C1058 1
L1013 47µ
Q1002 (CAM 5V REG) 2SB798
QR1002 UN5214
(CAM P-ON Ⓗ :ON)
R1001 8200 [0.1%]
D1003 MA142K
R1003 1K
R1004 390
D1008 MA728
R1063 10K
R1027 150
R1002 2700 [0.1%]
R1207 1K
LI BATTERY J1002 VEK5717
D1012 MA143
FRAME
C1101 1000P
C1025 0.1
R1012 15.8K [0.1%]
C1024 0.47
R1013 39K [0.1%]
C1046 1
QR1004 UN5214
D1009 RD7.5M-T1B3
QR1005 UN5114
R1051 27K [0.5%]
R1052 47K [0.5%]
C1051 0.47
Q1003 (SW REG 3.5V) 2SB798
L1007 35u ELL04T027R
D1004 EC10QS04 or MA736 or SFPB-54
C1008 8V8.2 ECGC0KA8R2
C1009 330P
R1005 5600 [0.1%]
R1039 240 [0.5%]
R1006 2700 [0.1%]
L1015 15u
L1006 47u
L1008 4.7u VLQ0606
(AMP) QR1061 UN5115
Q1005 (CAM 3.5V REG) 2SB1073
C1056 4V33
C1010 16V3.3
Q1062 (CAP VM REG) 2SB798
L1062 180u ELL04T035R
CL1010
D1062 SB05-05CP
R1065 1200
C1064 16V47
C1066 1
C1063 4700P
D1064 MA728
R1062 390
IC1001 BA9706K
R1014 1800 [0.1%]
C1027 100P
R1016 15K [0.5%]
C1028 50V0.47
C1026 50V1
R1015 1800
R1017 1K
R1018 150
C1030 8200P
C1029 470P
R1019 1K
C1031 470P
C1033 1000P
C1032 8200P
C1034 1000P
R1020 150
R1021 33
R1023 1800
R1022 15
R1025 1K
R1024 47
C1035 1000P
R1072 100K
R1071 1K
CL1002
CL1001
CL1006
CL1004
CL1005
CL1003
D1006 MA142K
L1010 100µ
C1017 25V1
C1019 25V0.47
T1001 41u ELL04T051R
D1005 SB05-05CP
R1035 47
Q1004 2SD2210 (SW REG 9V)
D1007 MA142K
L1009 10u
R1008 10K [0.1%]
R1040 182 [0.5%]
R1009 1500 [0.1%]
C1014 560P
C1013 12.5V4.7 ECGC1BA4R7
C1015 16V22
C1016 16V22
L1011 100u
C1020 1
C1022 0.1
R1007 33
C1012 1000P
CL1009
IC1001-27 STOP
0.6Vp-p (1µsec./div.)
IC1001-11 STOP
1.4Vp-p (1µsec./div.)
IC1001-9 STOP
1.3Vp-p (1µsec./div.)
Q1004-C STOP
13Vp-p (1µsec./div.)
REG GND
NOREG GND
E
D
C
B
A
1
2
3
4
5
6
7
8

B1001
(TO SYSTEM CTL & SERVO
/ Page : 3-44, C-28 (A)

28	VREF	B6001-14
27	SW NOREG	B6001-13
26	CAM P ON Ⓗ	B6001-12
25	REG 5V	B6001-11
24	REG 5V	B6001-10
23	POWER ON Ⓛ	B6001-9
22	LI BATT[+]	B6001-8
21	LI BATT[-]	B6001-7
20	NOREG GND	B6001-6
19	NOREG GND	B6001-5
18	NOREG GND	B6001-4
17	NOREG	B6001-3
16	NOREG	B6001-2
15	NOREG	B6001-1
14	EXT.DC Ⓗ	B6001-28
13	SYSREG3.5V	B6001-27
12	SSREG3.5V	B6001-26
11	GND	B6001-25
10	GND	B6001-24
9	V:PB.5V	B6001-23
8	ST REG5V	B6001-22
7	REG3.5V	B6001-21
6	SYSREG5V	B6001-20
5	EVF 5V	B6001-19
4	CAP SW	B6001-18
3	TRI WAVE	B6001-17
2	CAP VM	B6001-16
1	CAP VM	B6001-15

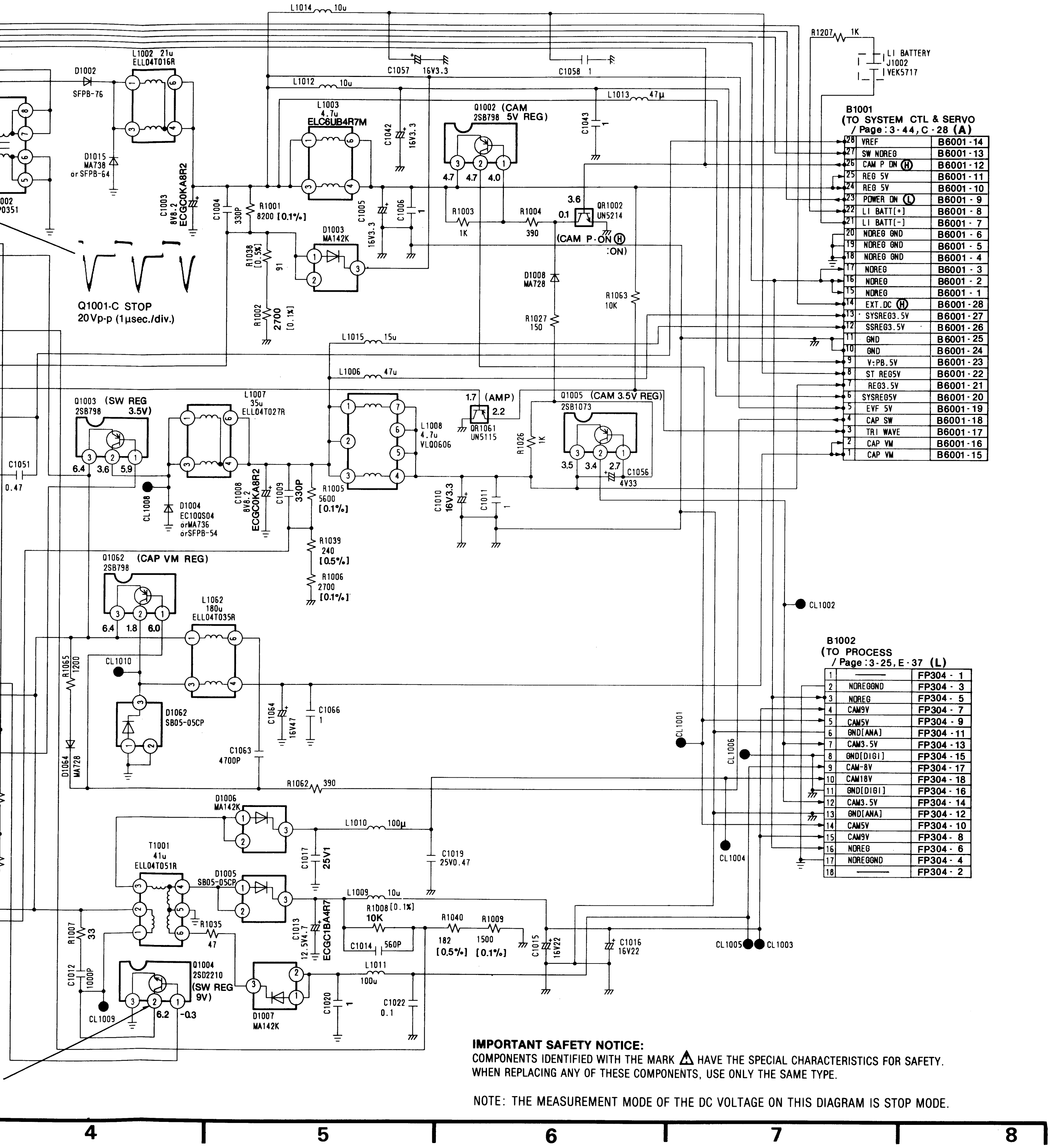
B1002
(TO PROCESS
/ Page : 3-25, E-37 (L)

1	——	FP304-1
2	NOREGGND	FP304-3
3	NOREG	FP304-5
4	CAM9V	FP304-7
5	CAM5V	FP304-9
6	GND[ANA]	FP304-11
7	CAM3.5V	FP304-13
8	GND[DIGI]	FP304-15
9	CAM-8V	FP304-17
10	CAM18V	FP304-18
11	GND[DIGI]	FP304-16
12	CAM3.5V	FP304-14
13	GND[ANA]	FP304-12
14	CAM5V	FP304-10
15	CAM9V	FP304-8
16	NOREG	FP304-6
17	NOREGGND	FP304-4
18	——	FP304-2

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED WITH THE MARK ⚠ HAVE THE SPECIAL CHARACTERISTICS FOR SAFETY.
WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SAME TYPE.

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE.


L1014 10u
L1002 21u ELL04T016R
D1002 SFPB-76
D1015 MA738 or SFPB-64
C1057 16V3.3
C1058 1
L1012 10u
L1003 4.7u ELC6UB4R7M
Q1002 (CAM 2SB798 5V REG)
L1013 47μ
C1043 1
C1042 16V3.3
C1003 8V8.2 ECGC0KA8R2
C1004 330P
R1001 8200 [0.1%]
D1003 MA142K
C1005 16V3.3
C1006 1
R1003 1K
R1004 390
QR1002 UN5214
(CAM P-ON Ⓗ :ON)
D1008 MA728
R1027 150
R1063 10K
R1038 [0.5%] 91
R1002 2700 [0.1%]
Q1001-C STOP 20Vp-p (1μsec./div.)
R1207 1K
LI BATTERY J1002 VEK5717
L1015 15u
L1006 47u
Q1003 (SW REG 2SB798 3.5V)
L1007 35u ELL04T027R
1.7 (AMP)
QR1061 UN5115
L1008 4.7u VL00606
Q1005 (CAM 3.5V REG) 2SB1073
R1026 1K
C1056 4V33
C1051 0.47
CL1008
D1004 EC10QS04 or MA736 or SFPB-54
C1008 8V8.2 ECGC0KA8R2
C1009 330P
R1005 5600 [0.1%]
C1010 16V3.3
C1011 1
R1039 240 [0.5%]
R1006 2700 [0.1%]
Q1062 (CAP VM REG) 2SB798
L1062 180u ELL04T035R
CL1002
CL1010
R1065 1200
D1062 SB05-05CP
C1063 4700P
C1064 16V47
C1066 1
D1064 MA728
R1062 390
CL1001
CL1006
D1006 MA142K
T1001 41u ELL04T051R
L1010 100μ
C1017 25V1
C1019 25V0.47
CL1004
D1005 SB05-05CP
R1035 47
L1009 10u
R1008 [0.1%] 10K
R1040 182 [0.5%]
R1009 1500 [0.1%]
C1013 12.5V4.7 ECGC1BA4R7
C1014 560P
C1015 16V22
C1016 16V22
CL1005
CL1003
R1007 33
C1012 1000P
Q1004 2SD2210 (SW REG 9V)
CL1009
L1011 100u
D1007 MA142K
C1020 1
C1022 0.1
4
5
6
7
8

B1001
(TO SYSTEM CTL & SERVO
/ Page : 3-44, C-28 (A)

28	VREF	B6001-14
27	SW NOREG	B6001-13
26	CAM P ON Ⓗ	B6001-12
25	REG 5V	B6001-11
24	REG 5V	B6001-10
23	POWER ON Ⓛ	B6001-9
22	LI BATT[+]	B6001-8
21	LI BATT[-]	B6001-7
20	NOREG GND	B6001-6
19	NOREG GND	B6001-5
18	NOREG GND	B6001-4
17	NOREG	B6001-3
16	NOREG	B6001-2
15	NOREG	B6001-1
14	EXT.DC Ⓗ	B6001-28
13	SYSREG3.5V	B6001-27
12	SSREG3.5V	B6001-26
11	GND	B6001-25
10	GND	B6001-24
9	V:PB.5V	B6001-23
8	ST REG5V	B6001-22
7	REG3.5V	B6001-21
6	SYSREG5V	B6001-20
5	EVF 5V	B6001-19
4	CAP SW	B6001-18
3	TRI WAVE	B6001-17
2	CAP VM	B6001-16
1	CAP VM	B6001-15

B1002
(TO PROCESS
/ Page : 3-25, E-37 (L)

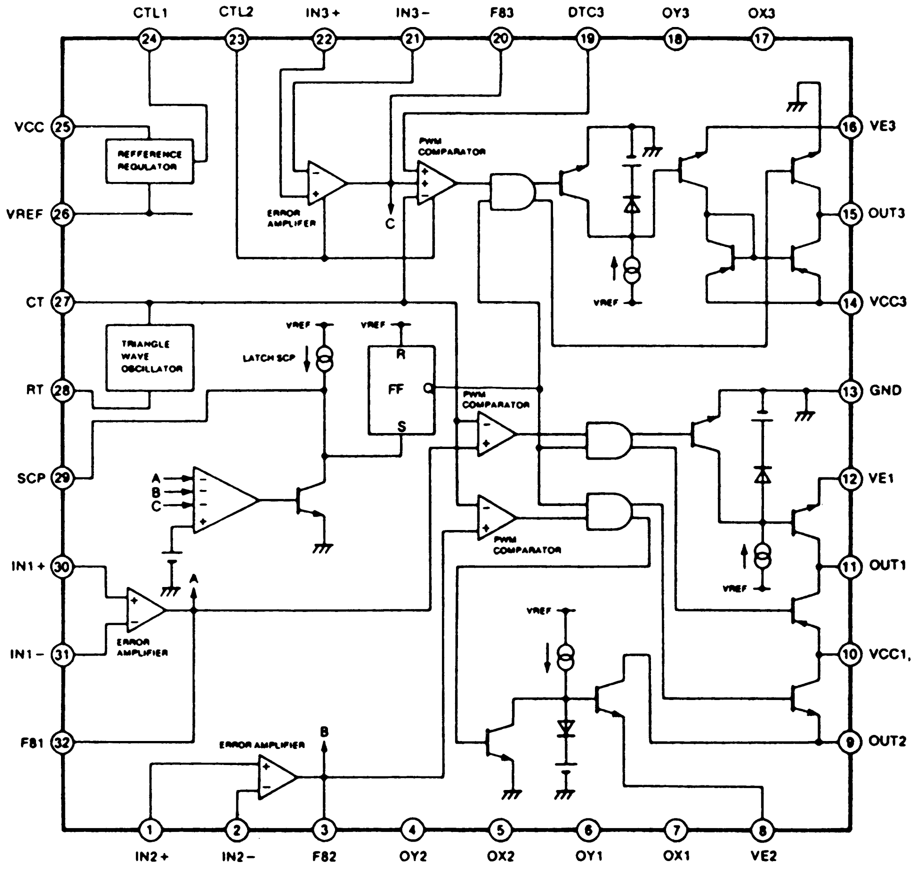
1	———	FP304-1
2	NOREGGND	FP304-3
3	NOREG	FP304-5
4	CAM9V	FP304-7
5	CAM5V	FP304-9
6	GND[ANA]	FP304-11
7	CAM3.5V	FP304-13
8	GND[DIGI]	FP304-15
9	CAM-8V	FP304-17
10	CAM18V	FP304-18
11	GND[DIGI]	FP304-16
12	CAM3.5V	FP304-14
13	GND[ANA]	FP304-12
14	CAM5V	FP304-10
15	CAM9V	FP304-8
16	NOREG	FP304-6
17	NOREGGND	FP304-4
18	———	FP304-2

IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED WITH THE MARK ⚠ HAVE THE SPECIAL CHARACTERISTICS FOR SAFETY.
WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SAME TYPE.

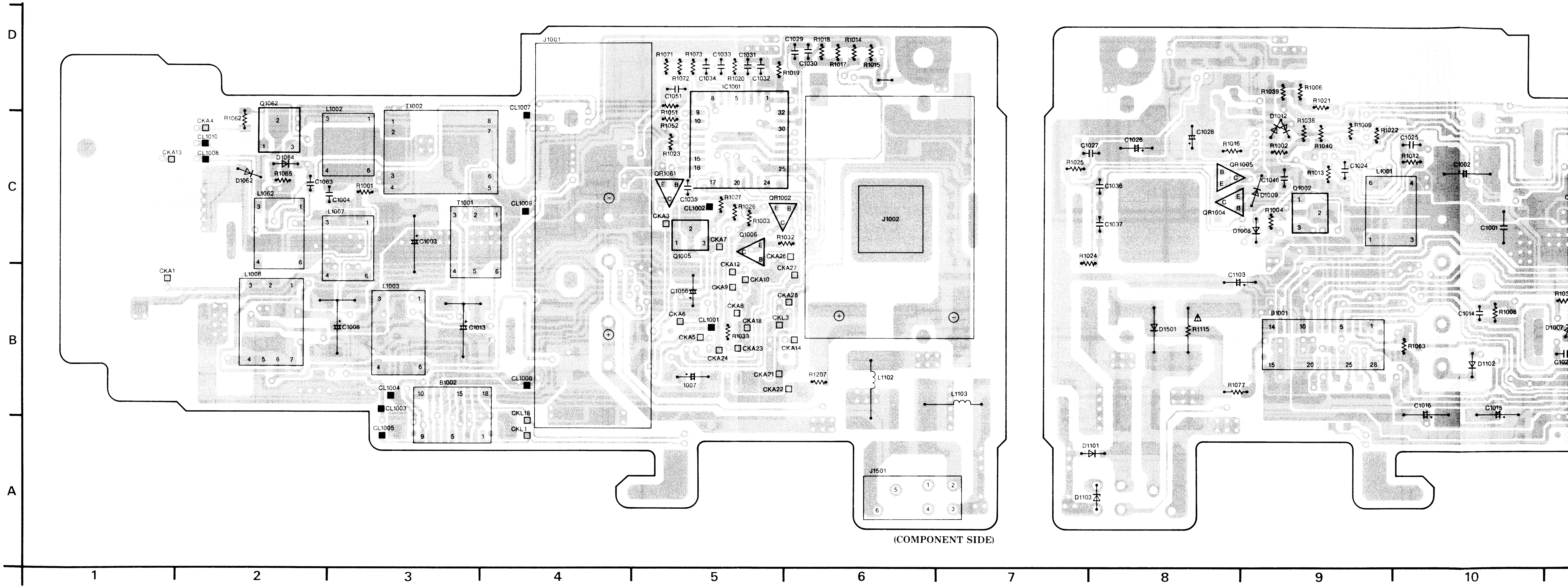
NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE.

IC BLOCK

IC1001 (BA9706K)


CTL1
CTL2
IN3+
IN3−
FB3
DTC3
OY3
OX3
VCC
VREF
CT
RT
SCP
IN1+
IN1−
FB1
VE3
OUT3
VCC3
GND
VE1
OUT1
VCC1, 2
OUT2
IN2+
IN2−
FB2
OY2
OX2
OY1
OX1
VE2
REFFERENCE REGULATOR
ERROR AMPLIFIER
PWM COMPARATOR
TRIANGLE WAVE OSCILLATOR
LATCH SCP
VREF
R
FF
Q
S
A
B
C
ERROR AMPLIFIER
PWM COMPARATOR
ERROR AMPLIFIER

3-27. POWER C.B.A. (VEP01555A)


D
C
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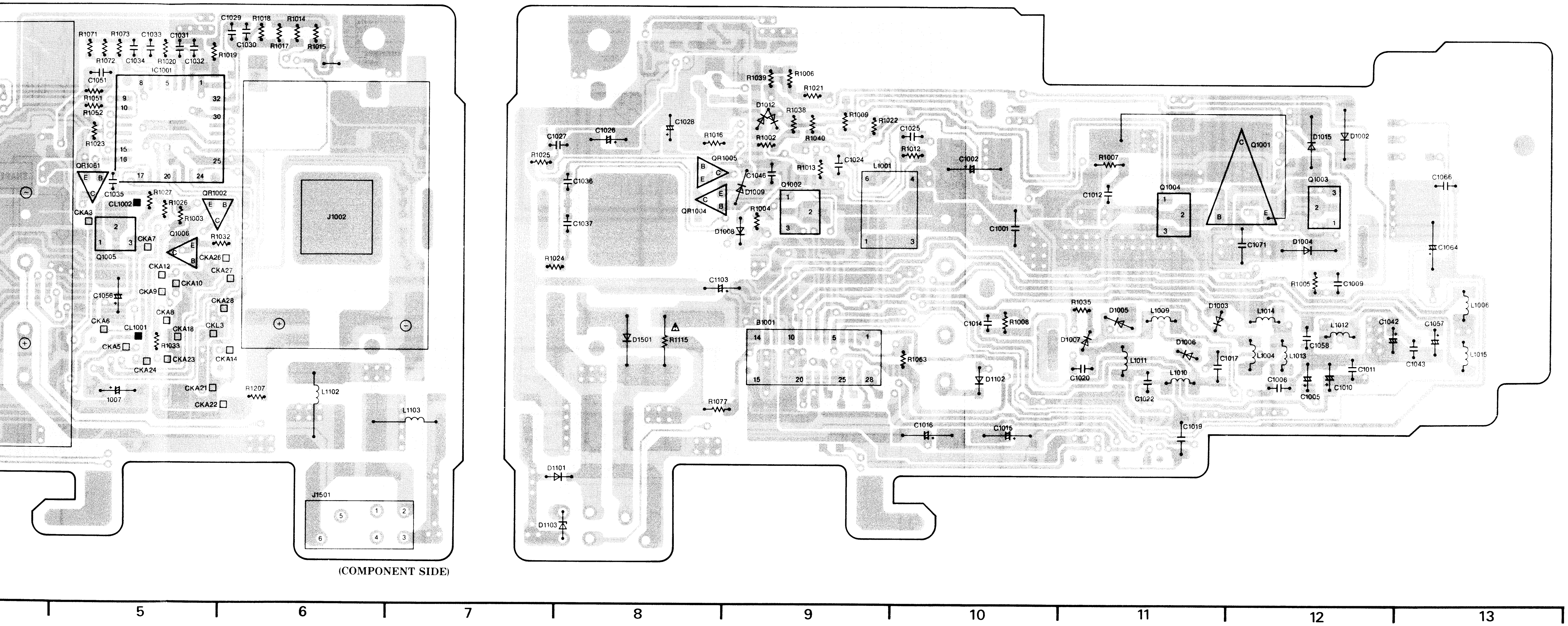
J1001
J1002
J1501
IC1001
Q1062
L1002
T1002
T1001
L1062
L1007
L1008
L1003
L1001
B1002
B1001
C1003
C1008
C1013
C1001
C1002
C1004
C1063
C1051
C1035
C1056
C1029
C1030
C1031
C1032
C1033
C1034
C1024
C1025
C1026
C1027
C1028
C1036
C1037
C1046
C1103
C1014
C1015
C1016
D1062
D1064
D1012
D1009
D1008
D1501
D1101
D1102
D1103
D1007
Q1005
Q1006
Q1002
QR1061
QR1002
QR1004
QR1005
R1062
R1065
R1001
R1071
R1072
R1073
R1020
R1019
R1018
R1017
R1014
R1015
R1051
R1052
R1023
R1027
R1026
R1003
R1032
R1033
R1207
R1039
R1006
R1021
R1038
R1009
R1022
R1012
R1016
R1002
R1040
R1013
R1004
R1025
R1024
R1115
R1077
R1063
R1008
L1102
L1103
CKA1
CKA3
CKA4
CKA5
CKA6
CKA7
CKA8
CKA9
CKA10
CKA12
CKA13
CKA14
CKA18
CKA21
CKA22
CKA23
CKA24
CKA26
CKA27
CKA28
CKL1
CKL3
CKL18
CL1001
CL1002
CL1003
CL1004
CL1005
CL1006
CL1007
CL1008
CL1009
CL1010

(COMPONENT SIDE)


IC1001
J1002
J1501
B1001
Q1001
Q1002
Q1003
Q1004
Q1005
Q1006
QR1002
QR1004
QR1005
QR1061
L1001
L1102
L1103
CL1001
CL1002
5
6
7
8
9
10
11
12
13

(COMPONENT SIDE)

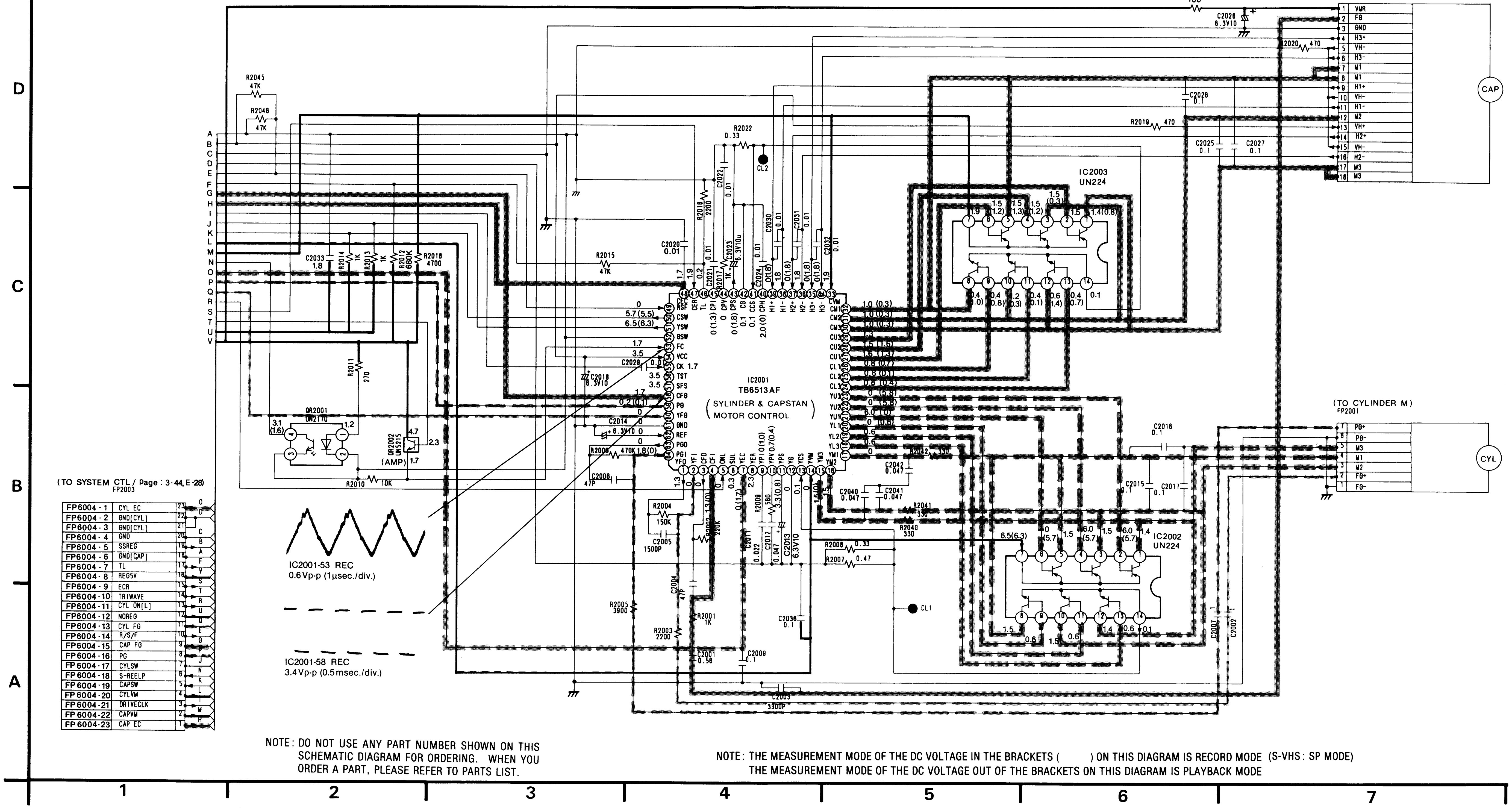
POWER C.B.A.	
Integrated Circuit	
IC1001	C-5
Transistor	
Q1001	C-11
Q1002	C-9
Q1003	C-12
Q1004	C-11
Q1005	C-5
Q1006	C-5
Q1062	C-2
Transistor & Resistor	
QR1002	C-5
QR1004	C-8
QR1005	C-8
QR1061	C-5
Test Point	
CL1001	B-5
CL1003	A-3
CL1004	B-3
CL1005	A-3
CL1006	B-4
CL1007	C-4
CL1008	C-2
CL1009	C-4
CL1010	C-2
Connector	
B1001	B-9
B1002	A-3

ADDRESS INFORMATION

Next Page:
DRIVE Section

3-28. DRIVE SCHEMATIC DIAGRAM

CAPSTAN SERVO SPEED LOOP
CYLINDER SERVO SPEED LOOP
CAPSTAN SERVO PHASE LOOP
CYLINDER SERVO PHASE LOOP


D
C
B
A
1
2
3
4
5
6
7
(TO CAPSTAN M)
FP2002
CAP
(TO CYLINDER M)
FP2001
CYL
IC2001
TB6513AF
(SYLINDER & CAPSTAN MOTOR CONTROL)
IC2003
UN224
IC2002
UN224
0R2001
UN2170
0R2002
UN5215
(AMP)
CL1
CL2
R2021 100
C2026 6.3V10
R2020 470
R2019 470
C2028 0.1
C2025 0.1
C2027 0.1
R2045 47K
R2046 47K
R2022 0.33
R2016 2200
C2022 0.01
C2020 0.01
R2015 47K
C2033 1.8
R2014 1K
R2013 1K
R2012 680K
R2018 4700
C2021 0.01
R2017 1K
C2023 6.3V10μ
C2024 0.01
C2030 0.01
C2031 0.01
C2032 0.01
C2029 0.01
C2018 6.3V10
C2014 6.3V10
R2006 470K
C2006 47P
R2011 270
R2010 10K
R2004 150K
C2005 1500P
R2002 220K
C2004 47P
R2005 3900
R2001 1K
R2003 2200
C2001 0.56
C2009 0.1
C2003 3300P
C2011 0.022
R2009 560
C2012 0.047
C2013 6.3V10
C2036 0.1
C2042 0.047
C2040 0.047
C2041 0.047
R2041 330
R2040 330
R2042 330
R2008 0.33
R2007 0.47
C2016 0.1
C2015 0.1
C2017 0.1
C2007 0.1
C2002
IC2001-53 REC
0.6Vp-p (1μsec./div.)
IC2001-58 REC
3.4Vp-p (0.5msec./div.)

(TO SYSTEM CTL / Page : 3-44, E-28)
FP2003

FP6004 - 1	CYL EC	23	O
FP6004 - 2	GND[CYL]	22	D
FP6004 - 3	GND[CYL]	21	
FP6004 - 4	GND	20	C
FP6004 - 5	SSREG	19	B
FP6004 - 6	GND[CAP]	18	A
FP6004 - 7	TL	17	F
FP6004 - 8	REG5V	16	V
FP6004 - 9	ECR	15	S
FP6004 - 10	TRIWAVE	14	T
FP6004 - 11	CYL ON[L]	13	R
FP6004 - 12	NOREG	12	U
FP6004 - 13	CYL FG	11	Q
FP6004 - 14	R/S/F	10	E
FP6004 - 15	CAP FG	9	G
FP6004 - 16	PG	8	P
FP6004 - 17	CYLSW	7	J
FP6004 - 18	S-REELP	6	N
FP6004 - 19	CAPSW	5	K
FP6004 - 20	CYLVM	4	L
FP6004 - 21	DRIVECLK	3	I
FP6004 - 22	CAPVM	2	M
FP6004 - 23	CAP EC	1	H

(TO CAPSTAN M)
FP2002

1	VMR
2	FG
3	GND
4	H3+
5	VH-
6	H3-
7	M1
8	M1
9	H1+
10	VH-
11	H1-
12	M2
13	VH+
14	H2+
15	VH-
16	H2-
17	M3
18	M3

(TO CYLINDER M)
FP2001

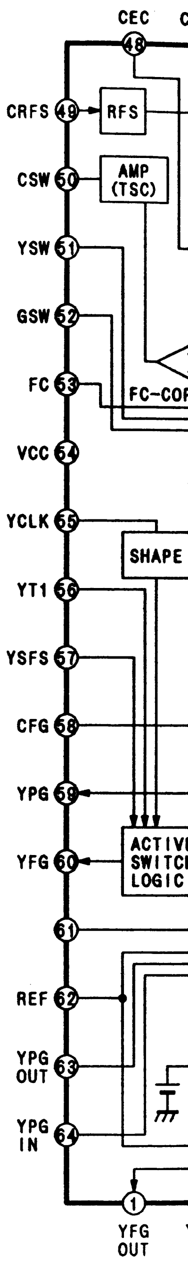
7	PG+
6	PG-
5	M3
4	M1
3	M2
2	FG+
1	FG-

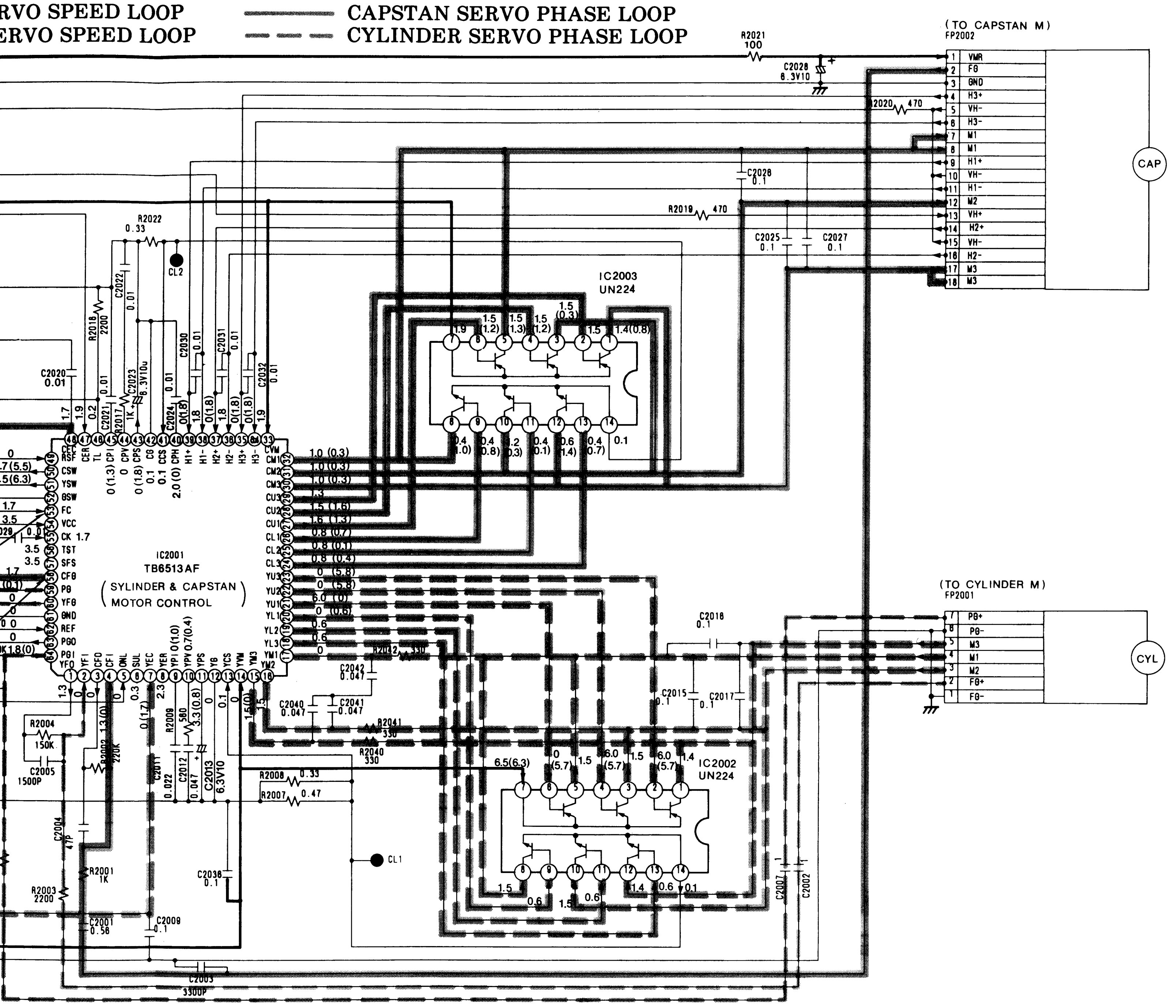
NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS ( ) ON THIS DIAGRAM IS RECORD MODE (S-VHS: SP MODE)
THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS PLAYBACK MODE

IC BLO

IC2001 (TE


CEC
CRFS
RFS
CSW
AMP (TSC)
YSW
GSW
FC
FC-COI
VCC
YCLK
SHAPE
YT1
YSFS
CFG
YPG
YFG
ACTIVE SWITC LOGIC
REF
YPG OUT
YPG IN
YFG OUT

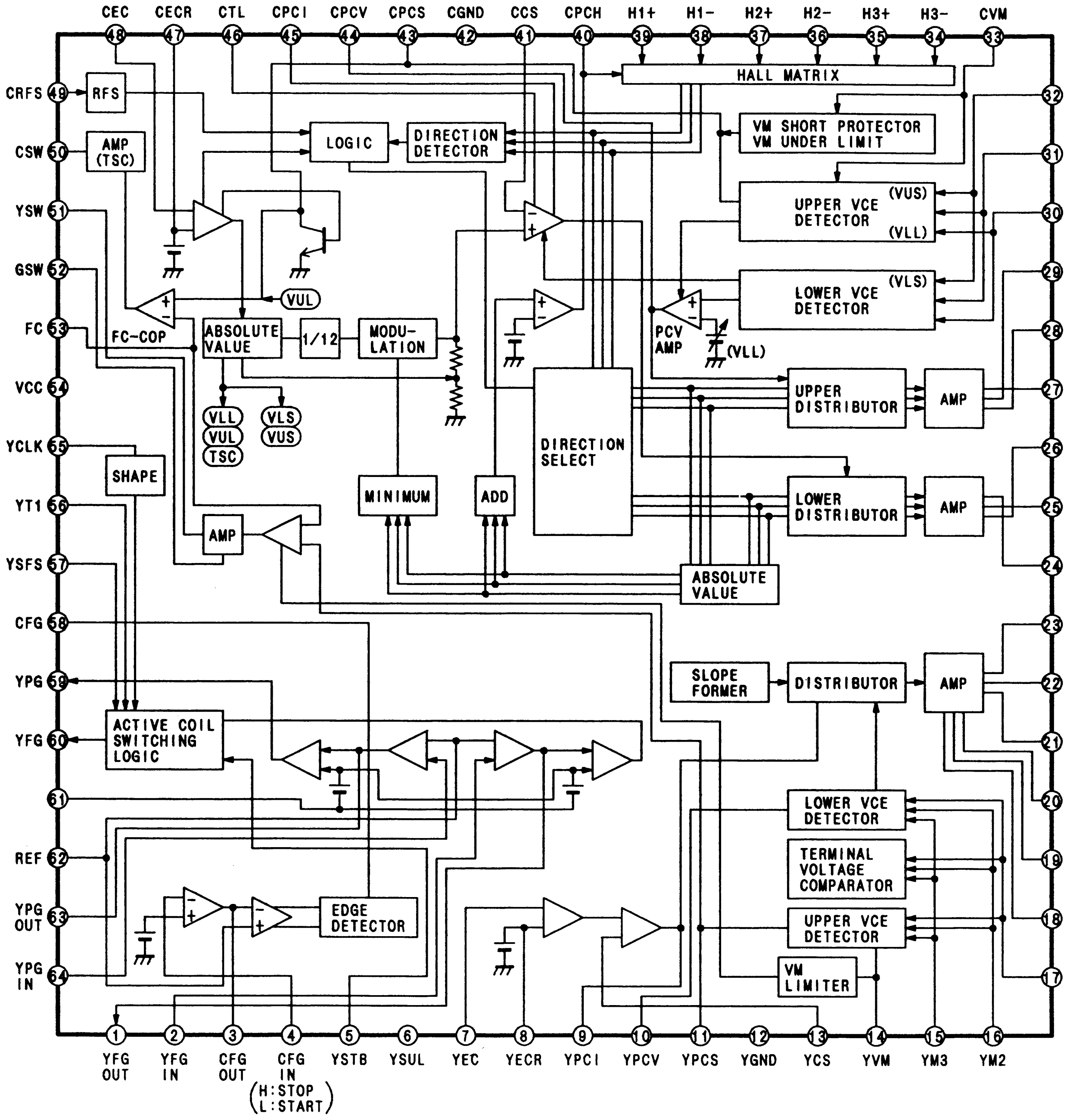

RVO SPEED LOOP
RVO SPEED LOOP
CAPSTAN SERVO PHASE LOOP
CYLINDER SERVO PHASE LOOP
(TO CAPSTAN M)
FP2002
VMR
FG
GND
H3+
VH-
H3-
M1
H1+
H1-
M2
VH+
H2+
H2-
M3
CAP
IC2003
UN224
IC2001
TB6513AF
(SYLINDER & CAPSTAN MOTOR CONTROL)
(TO CYLINDER M)
FP2001
PG+
PG-
FG+
FG-
CYL
IC2002
UN224
CL1
CL2
R2021 100
C2028 6.3V10
R2020 470
C2026 0.1
R2019 470
C2025 0.1
C2027 0.1
R2022 0.33
R2018 2200
C2020 0.01
C2018 0.1
C2015 0.1
C2017 0.1
C2042 0.047
C2040 0.047
C2041 0.047
R2041 330
R2040 330
R2042 330
R2008 0.33
R2007 0.47
R2004 150K
C2005 1500P
R2003 2200
R2001 1K
C2001 0.56
C2009 0.1
C2003 3300P
C2038 0.1
C2013 6.3V10
C2007
C2002

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS (   ) ON THIS DIAGRAM IS RECORD MODE (S-VHS: SP MODE)
THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS PLAYBACK MODE

4 5 6 7

IC BLOCK

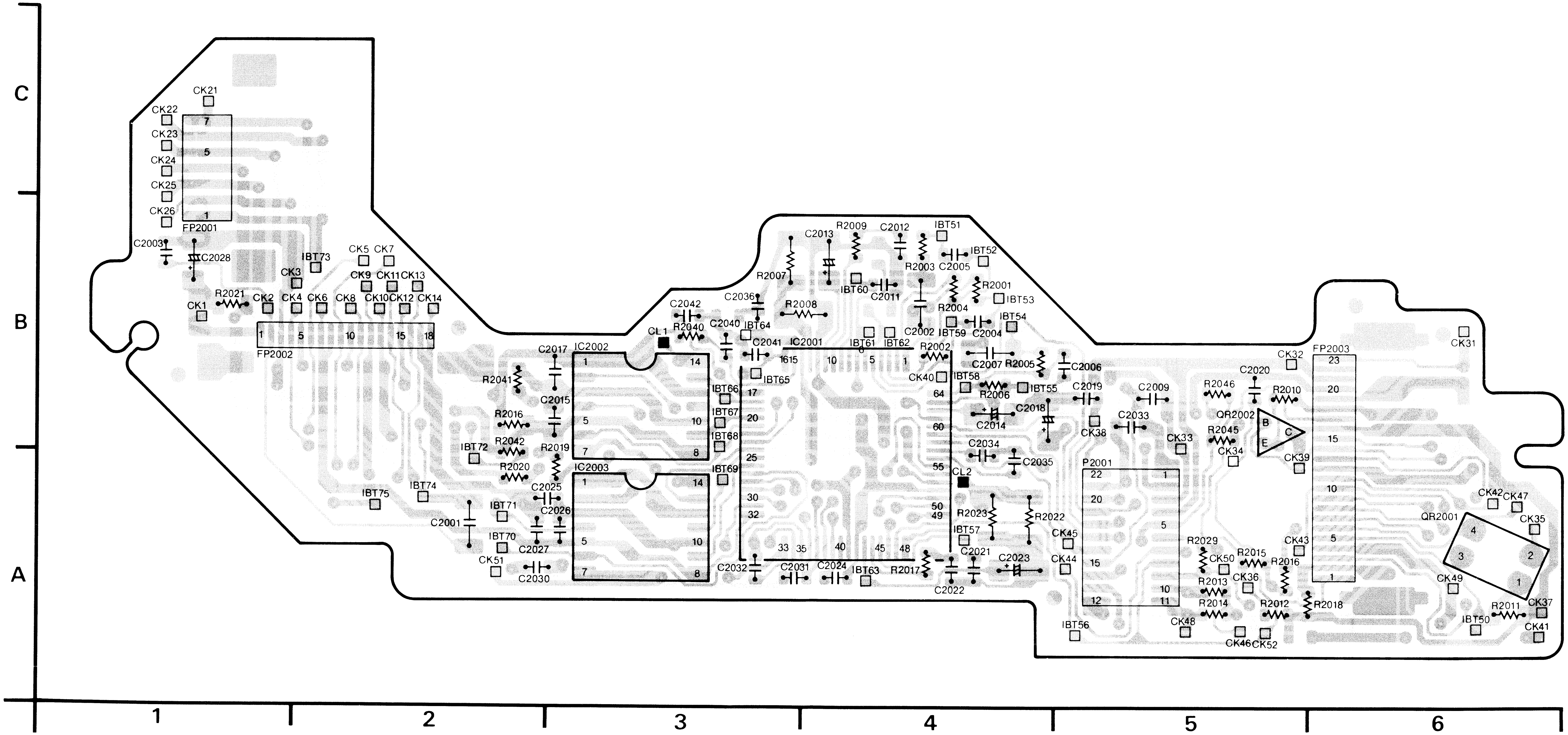
IC2001 (TB6513AF)

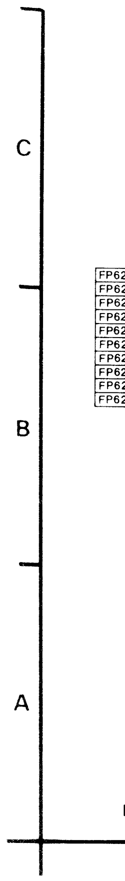

CEC
CECR
CTL
CPCI
CPCV
CPCS
CGND
CCS
CPCH
H1+
H1-
H2+
H2-
H3+
H3-
CVM
CRFS
CSW
YSW
GSW
FC
VCC
YCLK
YT1
YSFS
CFG
YPG
YFG
REF
YPG OUT
YPG IN
CM1
CM2
CM3
CU3
CU2
CU1
CL1
CL2
CL3
YU3
YU2
YU1
YL1
YL2
YL3
YM1
YFG OUT
YFG IN
CFG OUT
CFG IN
(H:STOP L:START)
YSTB
YSUL
YEC
YECR
YPCI
YPCV
YPCS
YGND
YCS
YVM
YM3
YM2
RFS
AMP (TSC)
LOGIC
DIRECTION DETECTOR
HALL MATRIX
VM SHORT PROTECTOR
VM UNDER LIMIT
UPPER VCE DETECTOR
(VUS)
(VLL)
LOWER VCE DETECTOR
(VLS)
VUL
FC-COP
ABSOLUTE VALUE
1/12
MODU-LATION
PCV AMP
VLL
VUL
TSC
VLS
VUS
DIRECTION SELECT
UPPER DISTRIBUTOR
LOWER DISTRIBUTOR
AMP
SHAPE
MINIMUM
ADD
ABSOLUTE VALUE
SLOPE FORMER
DISTRIBUTOR
ACTIVE COIL SWITCHING LOGIC
LOWER VCE DETECTOR
TERMINAL VOLTAGE COMPARATOR
UPPER VCE DETECTOR
VM LIMITER
EDGE DETECTOR

3-29. DRIVE C.B.A. (VEP02418A)

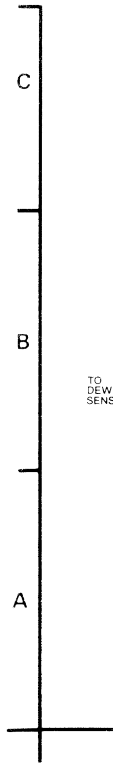
DRIVE C.B.A.	
Transistor & Resistor	
QR2001	A-6
QR2002	B-5
Integrated Circuit	
IC2001	B-4
IC2002	B-3
IC2003	A-3
Connector	
FP2001	B-1
FP2002	B-1
FP2003	B-6
P2001	A-5

ADDRESS INFORMATION

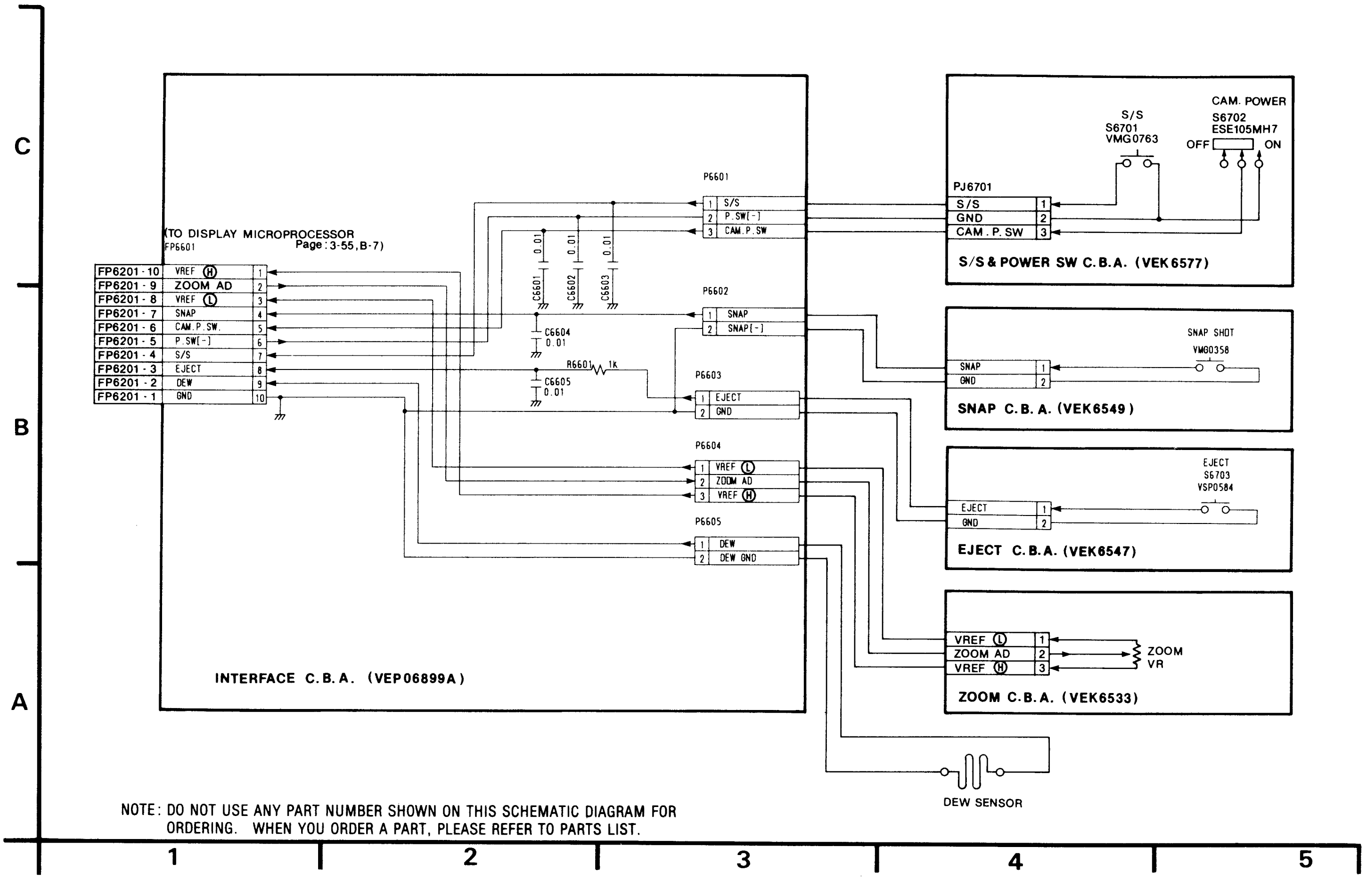

C
B
A
1
2
3
4
5
6
FP2001
FP2002
FP2003
P2001
IC2001
IC2002
IC2003
QR2001
QR2002
CL1
CL2
CK1
CK2
CK3
CK4
CK5
CK6
CK7
CK8
CK9
CK10
CK11
CK12
CK13
CK14
CK21
CK22
CK23
CK24
CK25
CK26
CK31
CK32
CK33
CK34
CK35
CK36
CK37
CK38
CK39
CK40
CK41
CK42
CK43
CK44
CK45
CK46
CK47
CK48
CK49
CK50
CK51
CK52
IBT50
IBT51
IBT52
IBT53
IBT54
IBT55
IBT56
IBT57
IBT58
IBT59
IBT60
IBT61
IBT62
IBT63
IBT64
IBT65
IBT66
IBT67
IBT68
IBT69
IBT70
IBT71
IBT72
IBT73
IBT74
IBT75
R2001
R2002
R2003
R2004
R2005
R2006
R2007
R2008
R2009
R2010
R2011
R2012
R2013
R2014
R2015
R2016
R2017
R2018
R2019
R2020
R2021
R2022
R2023
R2029
R2040
R2041
R2042
R2045
R2046
C2001
C2002
C2003
C2004
C2005
C2006
C2007
C2009
C2011
C2012
C2013
C2014
C2015
C2017
C2018
C2019
C2020
C2021
C2022
C2023
C2024
C2025
C2026
C2027
C2028
C2030
C2031
C2032
C2033
C2034
C2035
C2036
C2040
C2041
C2042
B
C
E



3-31.

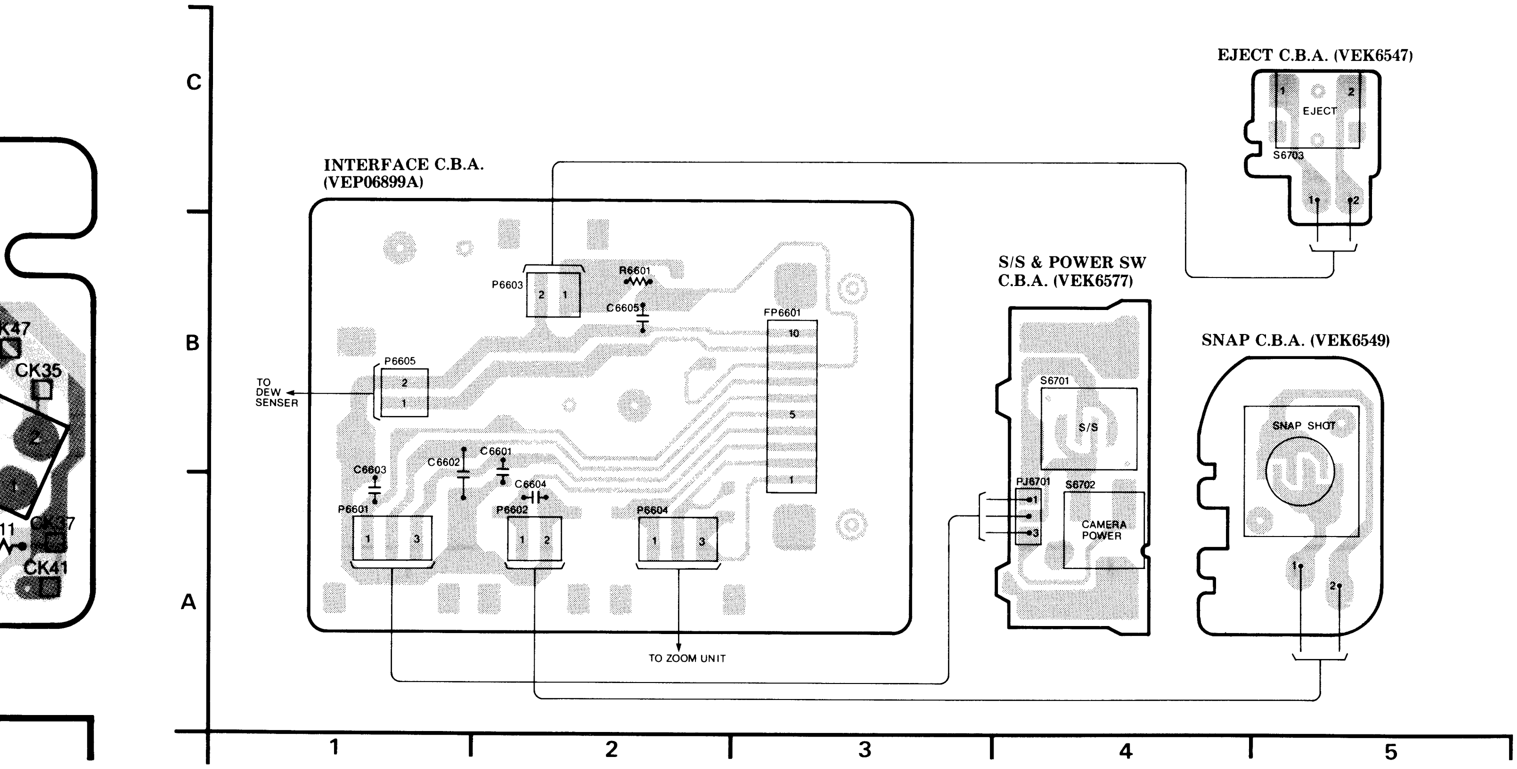

C
B
A
TO DEW SENS

3-30. INTERFACE SCHEMATIC DIAGRAM


C
B
A
1
2
3
4
5
(TO DISPLAY MICROPROCESSOR
FP6601
Page: 3-55, B-7)
FP6201 - 10
VREF Ⓗ
FP6201 - 9
ZOOM AD
FP6201 - 8
VREF Ⓛ
FP6201 - 7
SNAP
FP6201 - 6
CAM. P. SW.
FP6201 - 5
P. SW[-]
FP6201 - 4
S/S
FP6201 - 3
EJECT
FP6201 - 2
DEW
FP6201 - 1
GND
P6601
S/S
P. SW[-]
CAM. P. SW
C6601
0.01
C6602
0.01
C6603
0.01
P6602
SNAP
SNAP[-]
C6604
0.01
R6601 1K
C6605
0.01
P6603
EJECT
GND
P6604
VREF Ⓛ
ZOOM AD
VREF Ⓗ
P6605
DEW
DEW GND
INTERFACE C.B.A. (VEP06899A)
S/S
S6701
VMG0763
CAM. POWER
S6702
ESE105MH7
OFF
ON
PJ6701
S/S
GND
CAM. P. SW
S/S & POWER SW C.B.A. (VEK6577)
SNAP SHOT
VMG0358
SNAP
GND
SNAP C.B.A. (VEK6549)
EJECT
S6703
VSP0584
EJECT
GND
EJECT C.B.A. (VEK6547)
VREF Ⓛ
ZOOM AD
VREF Ⓗ
ZOOM VR
ZOOM C.B.A. (VEK6533)
DEW SENSOR

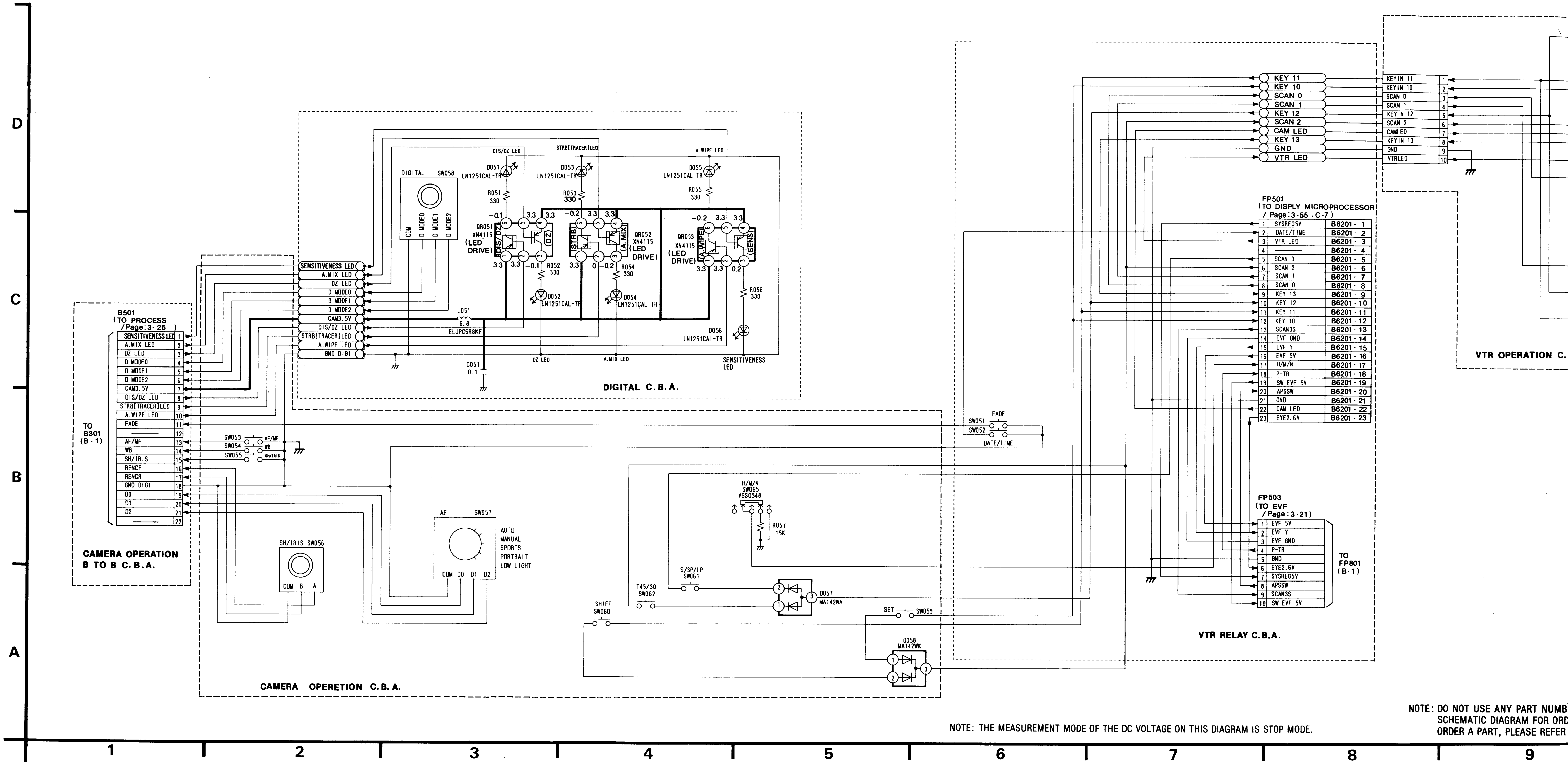
NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

3-31. INTERFACE C.B.A. (VEP06899A)


C
B
A
1
2
3
4
5
K47
CK35
CK37
CK41
11
INTERFACE C.B.A.
(VEP06899A)
P6603
2
1
R6601
C6605
FP6601
10
5
1
TO DEW SENSER
P6605
2
1
C6603
C6602
C6601
C6604
P6601
1
3
P6602
1
2
P6604
1
3
TO ZOOM UNIT
EJECT C.B.A. (VEK6547)
EJECT
S6703
1
2
S/S & POWER SW C.B.A. (VEK6577)
S6701
S/S
PJ6701
S6702
CAMERA POWER
1
2
3
SNAP C.B.A. (VEK6549)
SNAP SHOT
1
2

Next Page:
CAMERA OPERATION Section

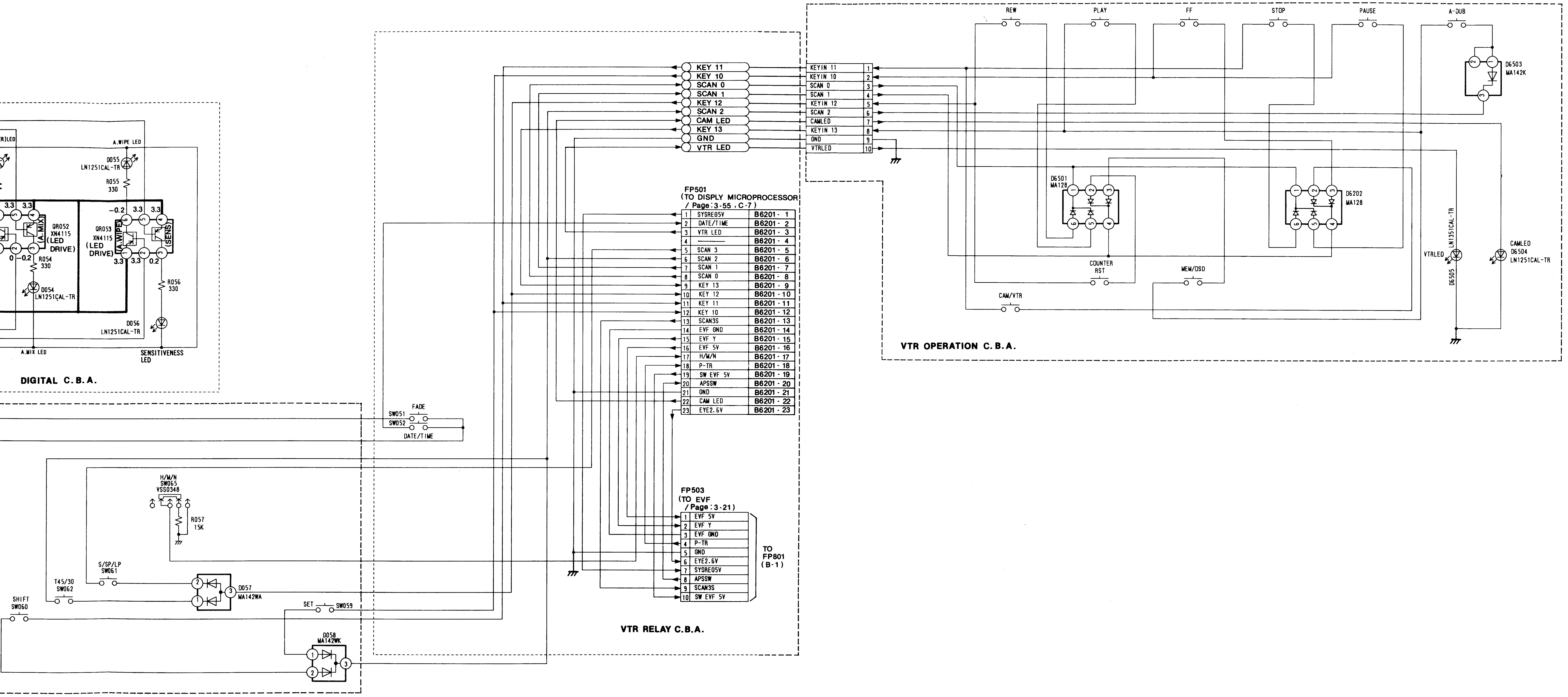
3-32. CAMERA OPERATION PANEL UNIT SCHEMATIC DIAGRAM


D
C
B
A
1
2
3
4
5
6
7
8
9
DIGITAL SW058
COM
D MODE0
D MODE1
D MODE2
DIS/DZ LED
STRB(TRACER)LED
A.WIPE LED
D051 LN1251CAL-TR
R051 330
D053 LN1251CAL-TR
R053 330
D055 LN1251CAL-TR
R055 330
QR051 XN4115 (LED DRIVE)
QR052 XN4115 (LED DRIVE)
QR053 XN4115 (LED DRIVE)
DIS/DZ
DZ
STRB
A.MIX
A.WIPE
SENS
-0.1
3.3
-0.2
0.2
0
R052 330
R054 330
R056 330
D052 LN1251CAL-TR
D054 LN1251CAL-TR
D056 LN1251CAL-TR
L051 6.8 ELJPC6R8KF
C051 0.1
DZ LED
A.MIX LED
SENSITIVENESS LED
DIGITAL C.B.A.
SENSITIVENESS LED
A.MIX LED
DZ LED
D MODE0
D MODE1
D MODE2
CAM3.5V
DIS/DZ LED
STRB(TRACER)LED
A.WIPE LED
GND DIGI
B501 (TO PROCESS /Page:3-25)
TO B301 (B-1)
AF/MF
WB
SH/IRIS
RENCF
RENCR
FADE
D0
D1
D2
CAMERA OPERATION B TO B C.B.A.
SW053
SW054
SW055
SH/IRIS SW056
COM B A
AE SW057
AUTO
MANUAL
SPORTS
PORTRAIT
LOW LIGHT
COM D0 D1 D2
H/M/N SW065 VSS0348
R057 15K
S/SP/LP SW061
T45/30 SW062
SHIFT SW060
D057 MA142WA
SET SW059
D058 MA142WK
CAMERA OPERETION C.B.A.
FADE
SW051
SW052
DATE/TIME
KEY 11
KEY 10
SCAN 0
SCAN 1
KEY 12
SCAN 2
CAM LED
KEY 13
GND
VTR LED
KEYIN 11
KEYIN 10
SCAN 0
SCAN 1
KEYIN 12
SCAN 2
CAMLED
KEYIN 13
GND
VTRLED
FP501 (TO DISPLY MICROPROCESSOR / Page:3-55, C-7)
SYSREG5V
DATE/TIME
VTR LED
SCAN 3
SCAN 2
SCAN 1
SCAN 0
KEY 13
KEY 12
KEY 11
KEY 10
SCAN3S
EVF GND
EVF Y
EVF 5V
H/M/N
P-TR
SW EVF 5V
APSSW
GND
CAM LED
EYE2.6V
B6201-1
B6201-2
B6201-3
B6201-4
B6201-5
B6201-6
B6201-7
B6201-8
B6201-9
B6201-10
B6201-11
B6201-12
B6201-13
B6201-14
B6201-15
B6201-16
B6201-17
B6201-18
B6201-19
B6201-20
B6201-21
B6201-22
B6201-23
FP503 (TO EVF /Page:3-21)
EVF 5V
EVF Y
EVF GND
P-TR
GND
EYE2.6V
SYSREG5V
APSSW
SCAN3S
SW EVF 5V
TO FP801 (B-1)
VTR RELAY C.B.A.
VTR OPERATION C.

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE.

NOTE: DO NOT USE ANY PART NUMB
SCHEMATIC DIAGRAM FOR ORD
ORDER A PART, PLEASE REFER

AGRAM

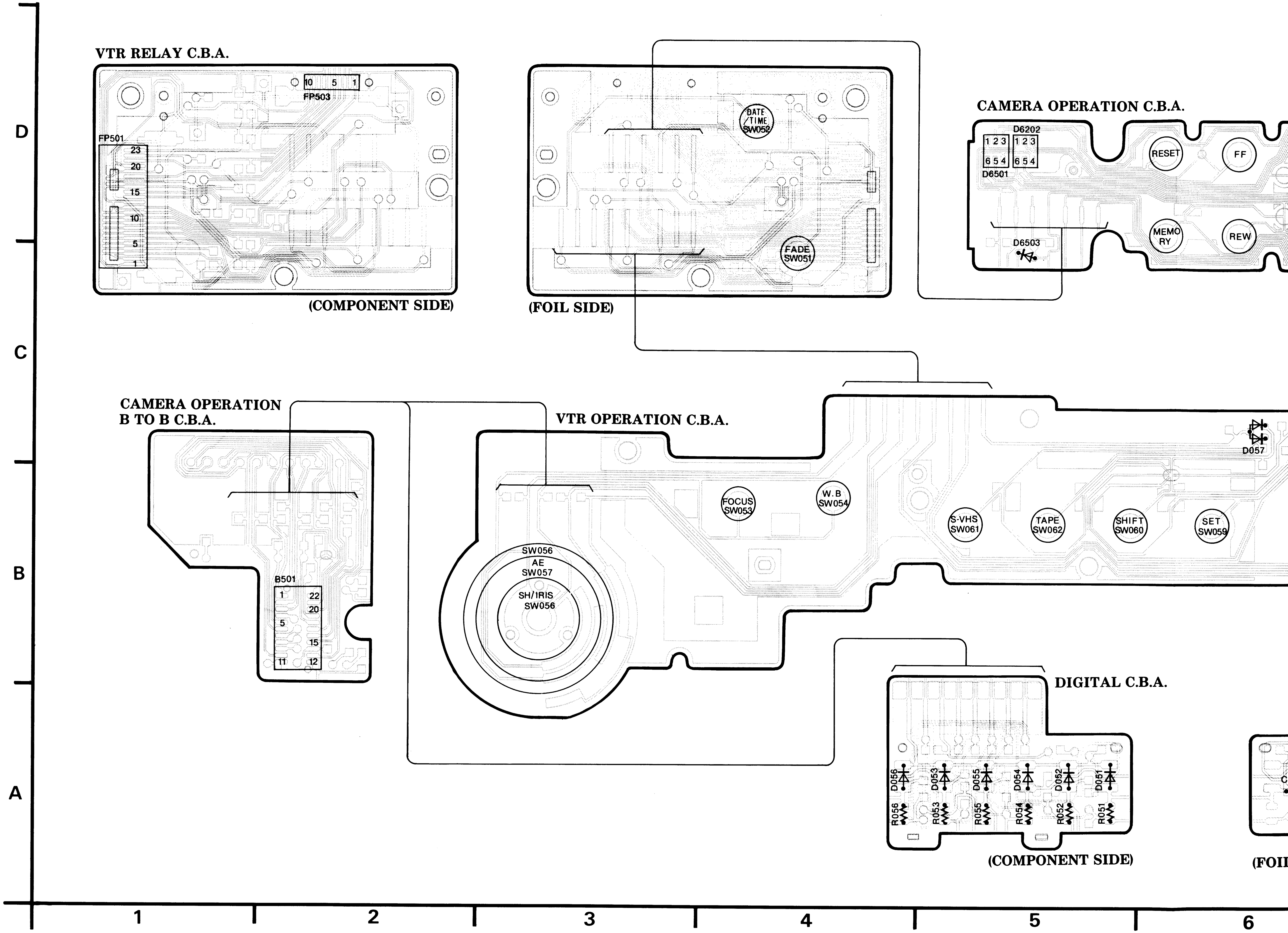

ER]LED
A.WIPE LED
D055
LN1251CAL-TR
R055
330
3.3
3.3
-0.2
3.3
3.3
QR052
XN4115
(LED
DRIVE)
(A.MIX)
QR053
XN4115
(LED
DRIVE)
(A.WIPE)
(SENS)
0
-0.2
3.3
3.3
0.2
R054
330
D054
LN1251CAL-TR
R056
330
D056
LN1251CAL-TR
A.MIX LED
SENSITIVENESS
LED
DIGITAL C.B.A.
KEY 11
KEY 10
SCAN 0
SCAN 1
KEY 12
SCAN 2
CAM LED
KEY 13
GND
VTR LED
FP501
(TO DISPLY MICROPROCESSOR
/ Page : 3-55 , C-7)
1 SYSREG5V B6201 - 1
2 DATE/TIME B6201 - 2
3 VTR LED B6201 - 3
4 B6201 - 4
5 SCAN 3 B6201 - 5
6 SCAN 2 B6201 - 6
7 SCAN 1 B6201 - 7
8 SCAN 0 B6201 - 8
9 KEY 13 B6201 - 9
10 KEY 12 B6201 - 10
11 KEY 11 B6201 - 11
12 KEY 10 B6201 - 12
13 SCAN3S B6201 - 13
14 EVF GND B6201 - 14
15 EVF Y B6201 - 15
16 EVF 5V B6201 - 16
17 H/M/N B6201 - 17
18 P-TR B6201 - 18
19 SW EVF 5V B6201 - 19
20 APSSW B6201 - 20
21 GND B6201 - 21
22 CAM LED B6201 - 22
23 EYE2.6V B6201 - 23
SW051
FADE
SW052
DATE/TIME
H/M/N
SW065
VSS0348
R057
15K
S/SP/LP
SW061
T45/30
SW062
D057
MA142WA
SHIFT
SW060
SET
SW059
D058
MA142WK
FP503
(TO EVF
/ Page : 3-21)
1 EVF 5V
2 EVF Y
3 EVF GND
4 P-TR
5 GND
6 EYE2.6V
7 SYSREG5V
8 APSSW
9 SCAN3S
10 SW EVF 5V
TO
FP801
(B-1)
VTR RELAY C.B.A.
KEYIN 11 1
KEYIN 10 2
SCAN 0 3
SCAN 1 4
KEYIN 12 5
SCAN 2 6
CAMLED 7
KEYIN 13 8
GND 9
VTRLED 10
REW
PLAY
FF
STOP
PAUSE
A-DUB
D6503
MA142K
D6501
MA128
D6202
MA128
COUNTER
RST
MEM/OSD
CAM/VTR
VTRLED
LN1351CAL-TR
D6505
CAMLED
D6504
LN1251CAL-TR
VTR OPERATION C.B.A.

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

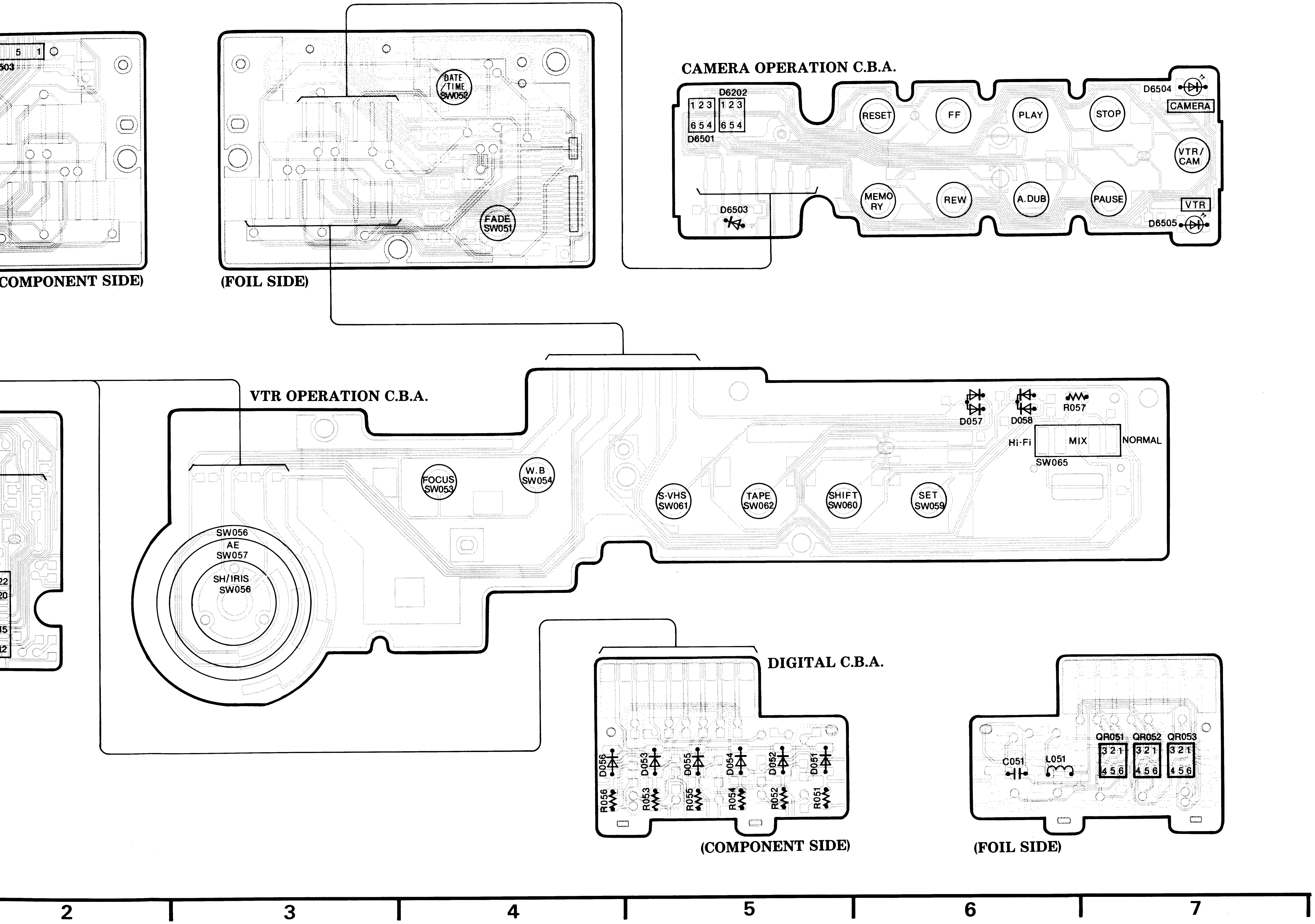
NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE.

4 5 6 7 8 9 10 11 12

3-33. CAMERA OPERATION PANEL UNIT (ESU39010)

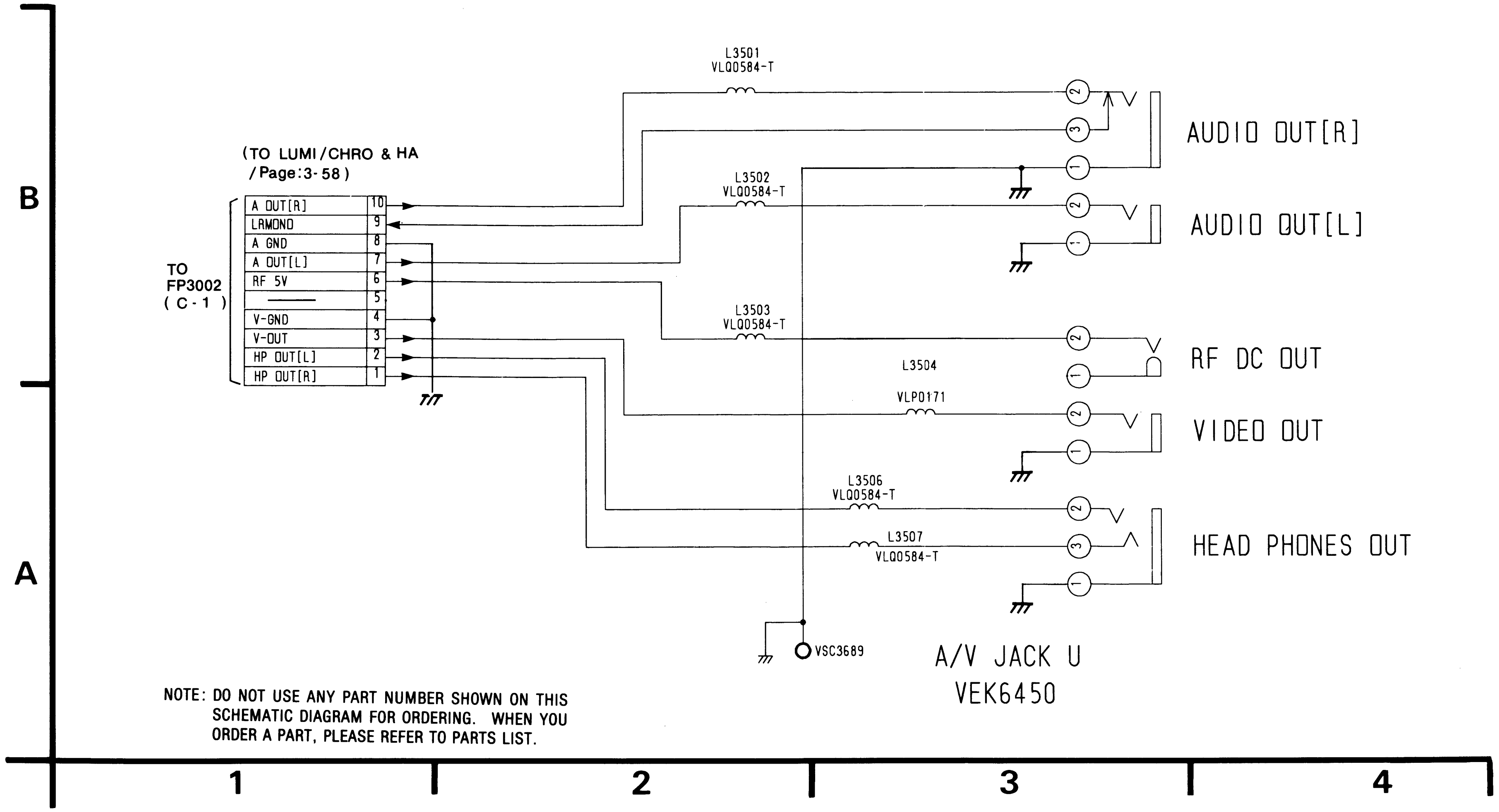

VTR RELAY C.B.A.
FP503
10
5
1
FP501
23
20
15
10
5
1
(COMPONENT SIDE)
DATE/TIME SW052
FADE SW051
(FOIL SIDE)
CAMERA OPERATION C.B.A.
D6202
1 2 3
6 5 4
1 2 3
6 5 4
D6501
RESET
FF
MEMORY
REW
D6503
CAMERA OPERATION B TO B C.B.A.
B501
1
22
20
5
15
11
12
VTR OPERATION C.B.A.
SW056
AE
SW057
SH/IRIS
SW056
FOCUS SW053
W.B SW054
S-VHS SW061
TAPE SW062
SHIFT SW060
SET SW059
D057
DIGITAL C.B.A.
D056
D053
D055
D054
D052
D051
R056
R053
R055
R054
R052
R051
(COMPONENT SIDE)
(FOI
D
C
B
A
1
2
3
4
5
6

ANEL UNIT (ESU39010)


5
1
503
(COMPONENT SIDE)
DATE /TIME SW052
FADE SW051
(FOIL SIDE)
CAMERA OPERATION C.B.A.
D6202
1 2 3
6 5 4
1 2 3
6 5 4
D6501
RESET
FF
PLAY
STOP
D6504
CAMERA
VTR/ CAM
MEMO RY
REW
A.DUB
PAUSE
VTR
D6503
D6505
VTR OPERATION C.B.A.
D057
D058
R057
Hi-Fi
MIX
NORMAL
SW065
FOCUS SW053
W.B SW054
S-VHS SW061
TAPE SW062
SHIFT SW060
SET SW059
SW056
AE
SW057
SH/IRIS
SW056
22
20
15
12
DIGITAL C.B.A.
D056
D053
D055
D054
D052
D051
R056
R053
R055
R054
R052
R051
(COMPONENT SIDE)
C051
L051
QR051
QR052
QR053
3 2 1
4 5 6
3 2 1
4 5 6
3 2 1
4 5 6
(FOIL SIDE)
2
3
4
5
6
7

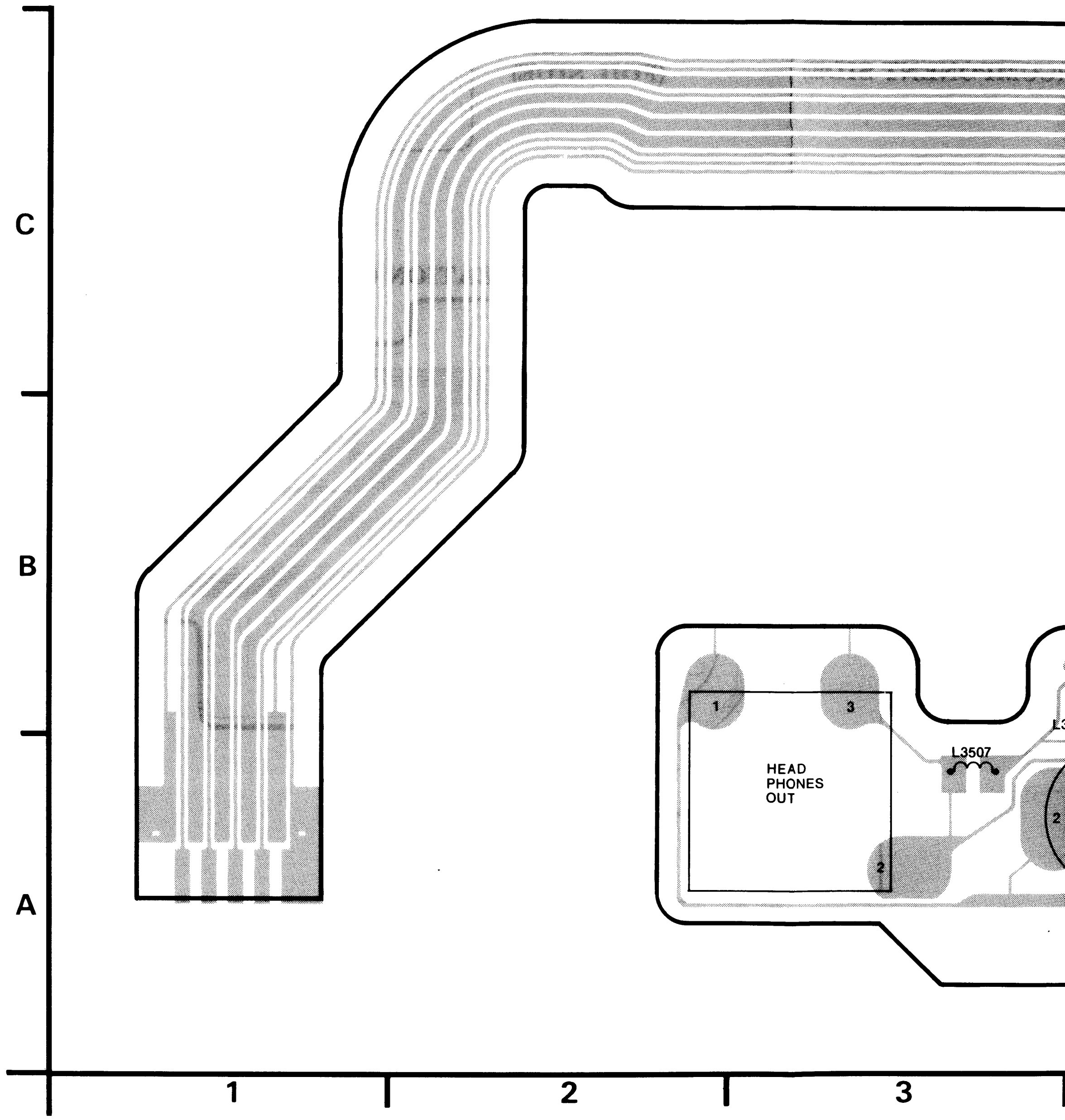
Next Page:
AV JACK Section

3-34. AV JACK SCHEMATIC DIAGRAM

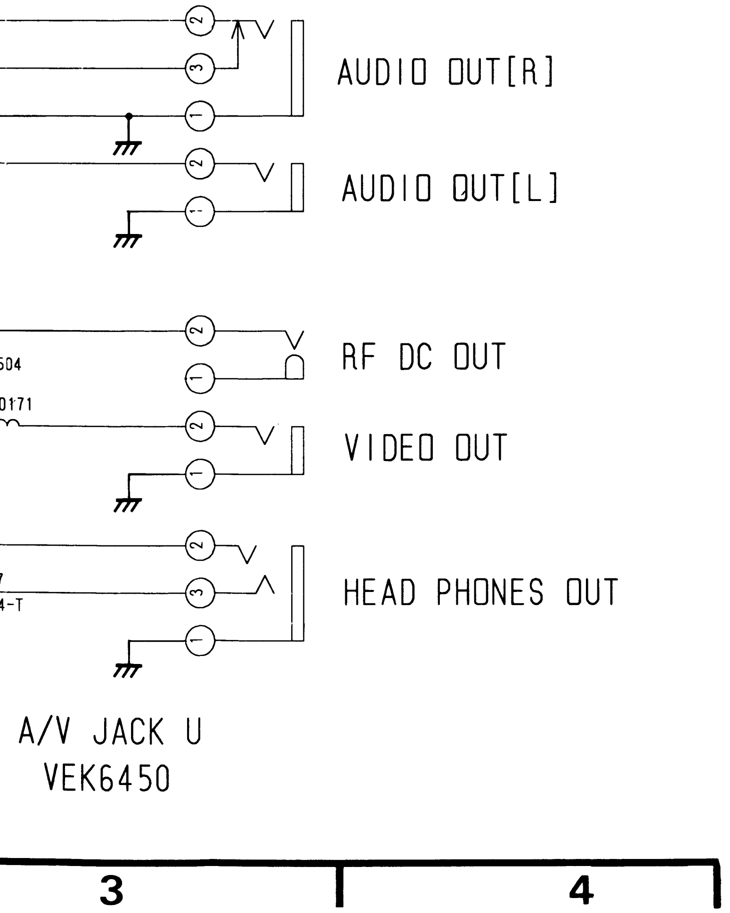

(TO LUMI/CHRO & HA
/Page:3-58)
TO
FP3002
(C-1)
A OUT[R] 10
LRMONO 9
A GND 8
A OUT[L] 7
RF 5V 6
——— 5
V-GND 4
V-OUT 3
HP OUT[L] 2
HP OUT[R] 1
L3501
VLQ0584-T
L3502
VLQ0584-T
L3503
VLQ0584-T
L3504
VLP0171
L3506
VLQ0584-T
L3507
VLQ0584-T
AUDIO OUT[R]
AUDIO OUT[L]
RF DC OUT
VIDEO OUT
HEAD PHONES OUT
VSC3689
A/V JACK U
VEK6450
B
A
1
2
3
4

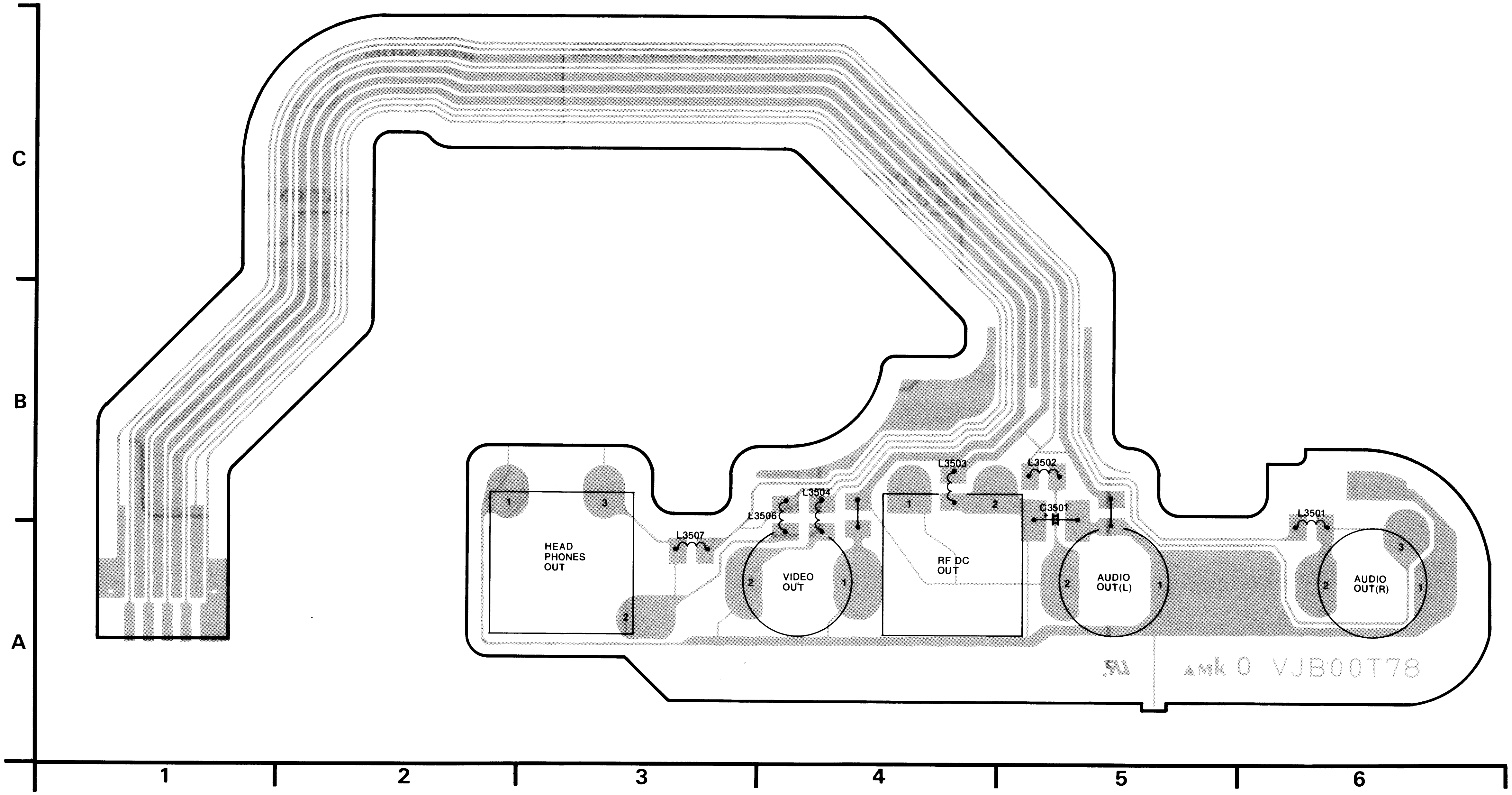
NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

3-35. AV JACK C.B.A. (VEK6450)

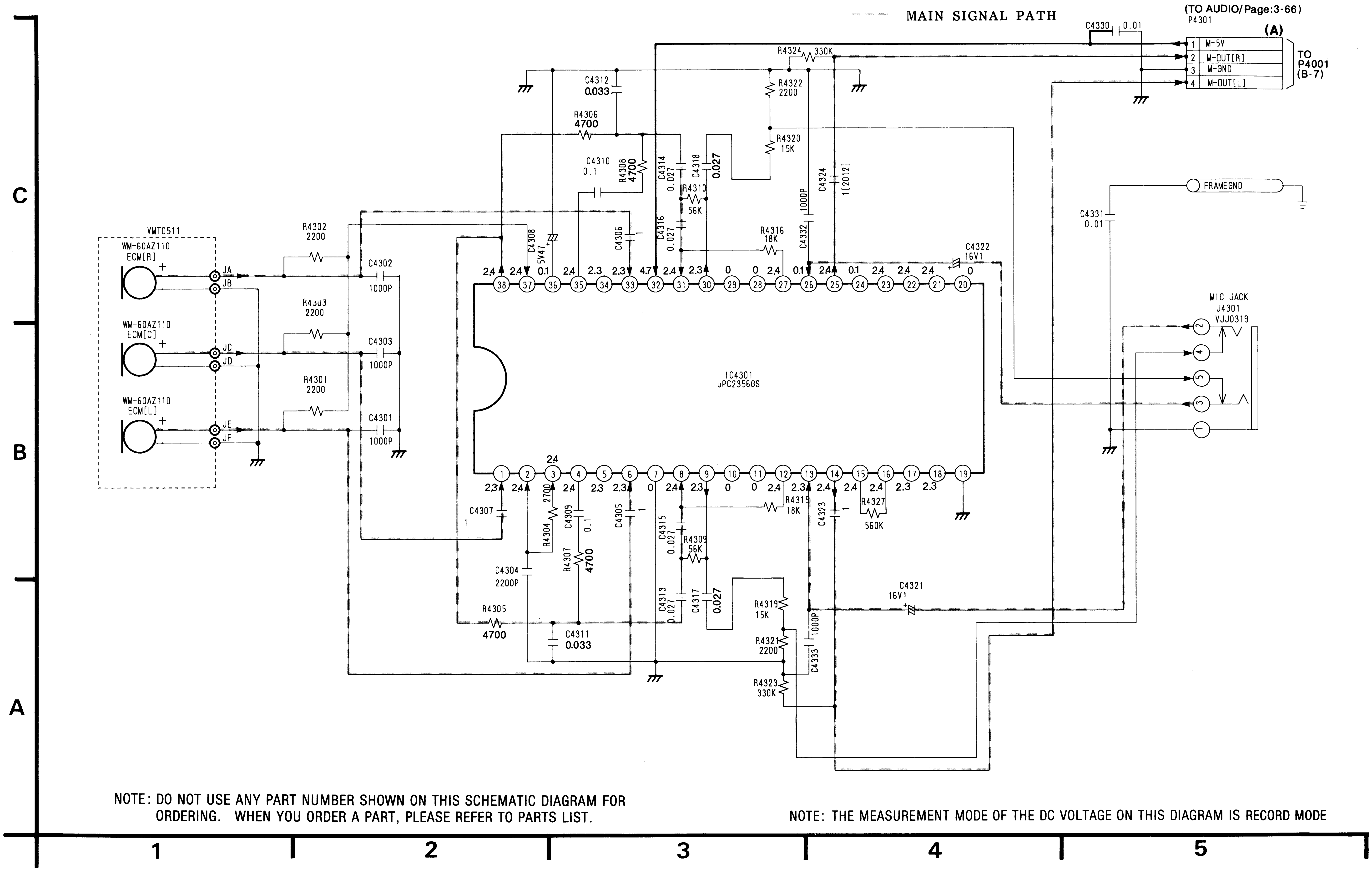

C
B
A
HEAD
PHONES
OUT
L3507
1
3
2
1
2
3

3-35. AV JACK C.B.A. (VEK6450)


AUDIO OUT[R]
AUDIO OUT[L]
RF DC OUT
504
0171
VIDEO OUT
4-T
HEAD PHONES OUT
A/V JACK U
VEK6450
3
4


C
B
A
1
2
3
4
5
6
HEAD PHONES OUT
VIDEO OUT
RF DC OUT
AUDIO OUT(L)
AUDIO OUT(R)
L3501
L3502
L3503
L3504
L3506
L3507
C3501
VJB00T78

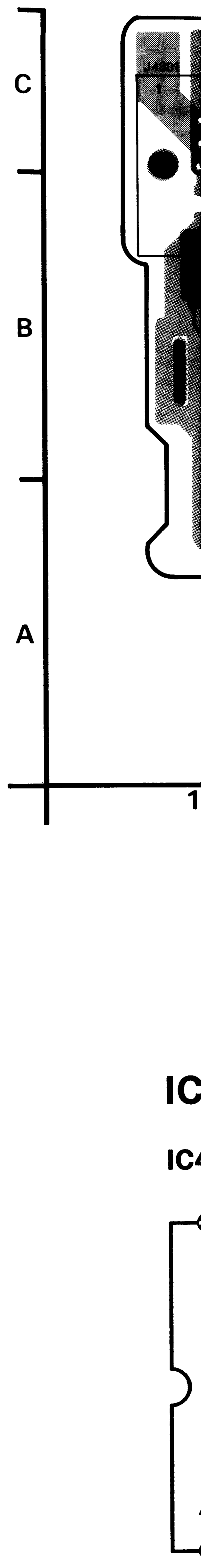
3-36. MIC SCHEMATIC DIAGRAM


MAIN SIGNAL PATH
(TO AUDIO/Page:3-66)
P4301
(A)
1 M-5V
2 M-OUT[R]
3 M-GND
4 M-OUT[L]
TO P4001 (B-7)
C4330 0.01
R4324 330K
R4322 2200
R4320 15K
C4312 0.033
R4306 4700
C4310 0.1
R4308 4700
C4314 0.027
C4318 0.027
R4310 56K
C4316 0.027
C4306 1
C4308 5V47
R4316 18K
C4332 1000P
C4324 1[2012]
C4322 16V1
C4331 0.01
FRAMEGND
VMT0511
WM-60AZ110 ECM[R]
WM-60AZ110 ECM[C]
WM-60AZ110 ECM[L]
JA
JB
JC
JD
JE
JF
R4302 2200
R4303 2200
R4301 2200
C4302 1000P
C4303 1000P
C4301 1000P
IC4301
uPC2356GS
MIC JACK
J4301
VJJ0319
C4307 1
R4304 2700
C4309 0.1
R4307 4700
C4305 1
C4304 2200P
R4305 4700
C4311 0.033
C4315 0.027
R4309 56K
C4313 0.027
C4317 0.027
R4315 18K
C4323 1
R4327 560K
C4321 16V1
R4319 15K
R4321 2200
C4333 1000P
R4323 330K
C
B
A
1
2
3
4
5

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS RECORD MODE

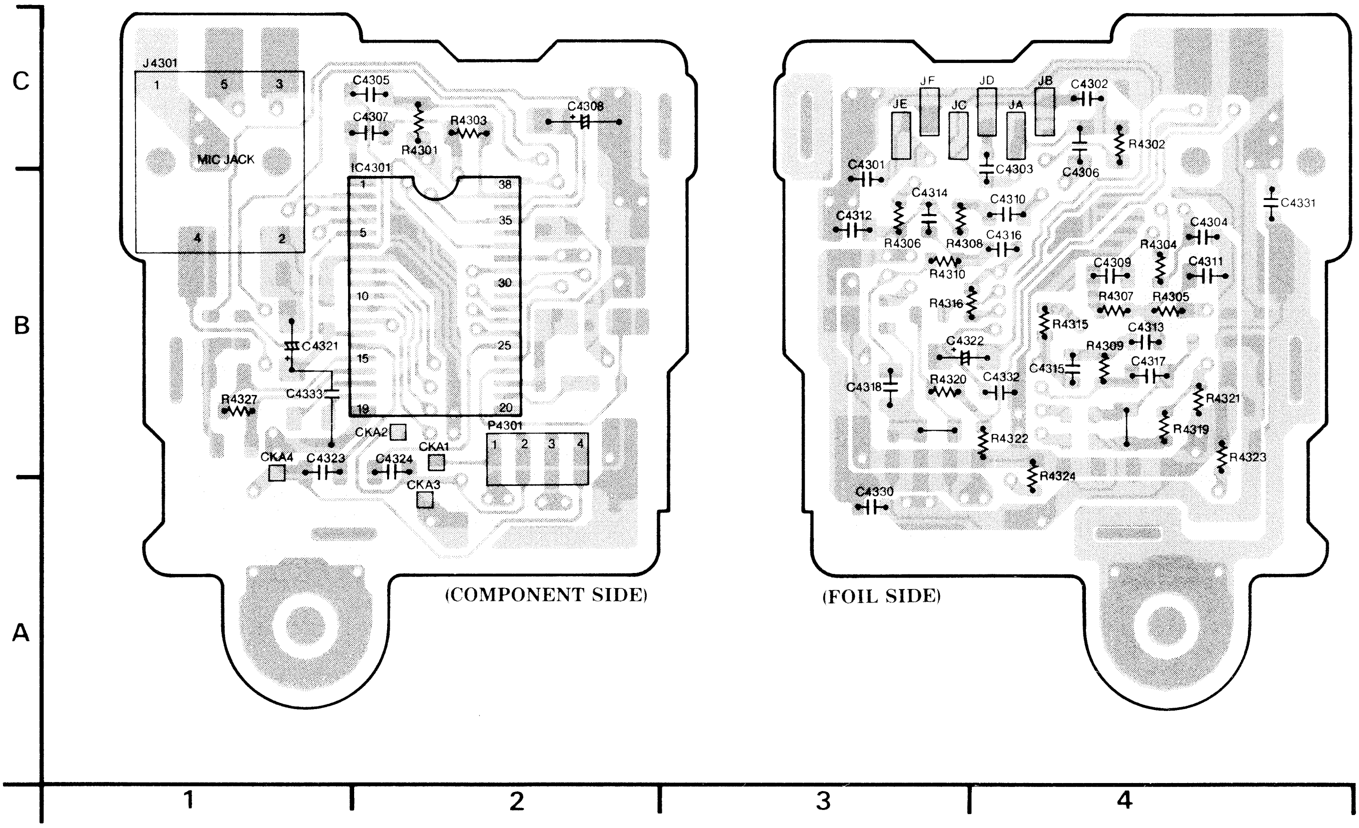
3-37. MIC



3-37. MIC C.B.A. (VEK6543)

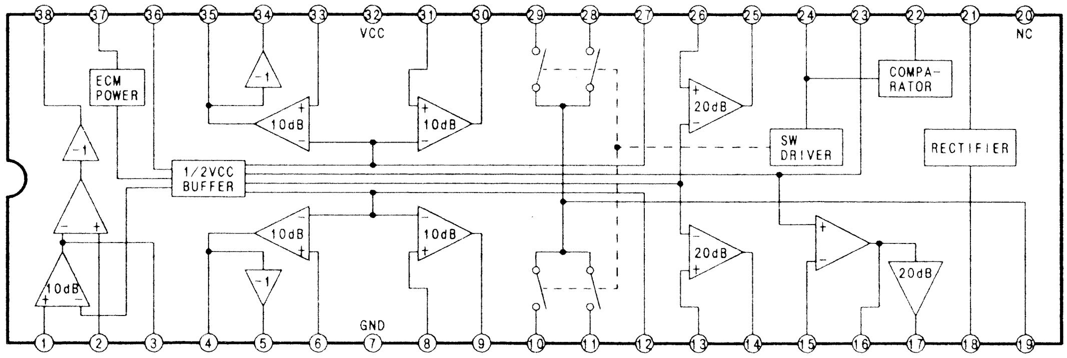
MIC C.B.A.	
Integrated Circuit	
IC4301	B-2
Test Point	
P4301	A-2

ADDRESS INFORMATION


C
B
A
1
2
3
4
J4301
1
5
3
MIC JACK
4
2
C4305
C4307
R4301
R4303
C4308
IC4301
1
38
5
35
10
30
15
25
19
20
C4321
R4327
C4333
CKA2
P4301
1 2 3 4
CKA1
CKA4
C4323
C4324
CKA3
(COMPONENT SIDE)
JF
JD
JB
C4302
JE
JC
JA
R4302
C4303
C4306
C4301
C4314
C4310
C4331
C4312
R4306
R4308
C4316
C4304
R4304
R4310
C4309
C4311
R4307
R4305
R4316
R4315
C4313
C4322
R4309
C4315
C4317
C4318
R4320
C4332
R4321
R4319
R4322
R4323
R4324
C4330
(FOIL SIDE)

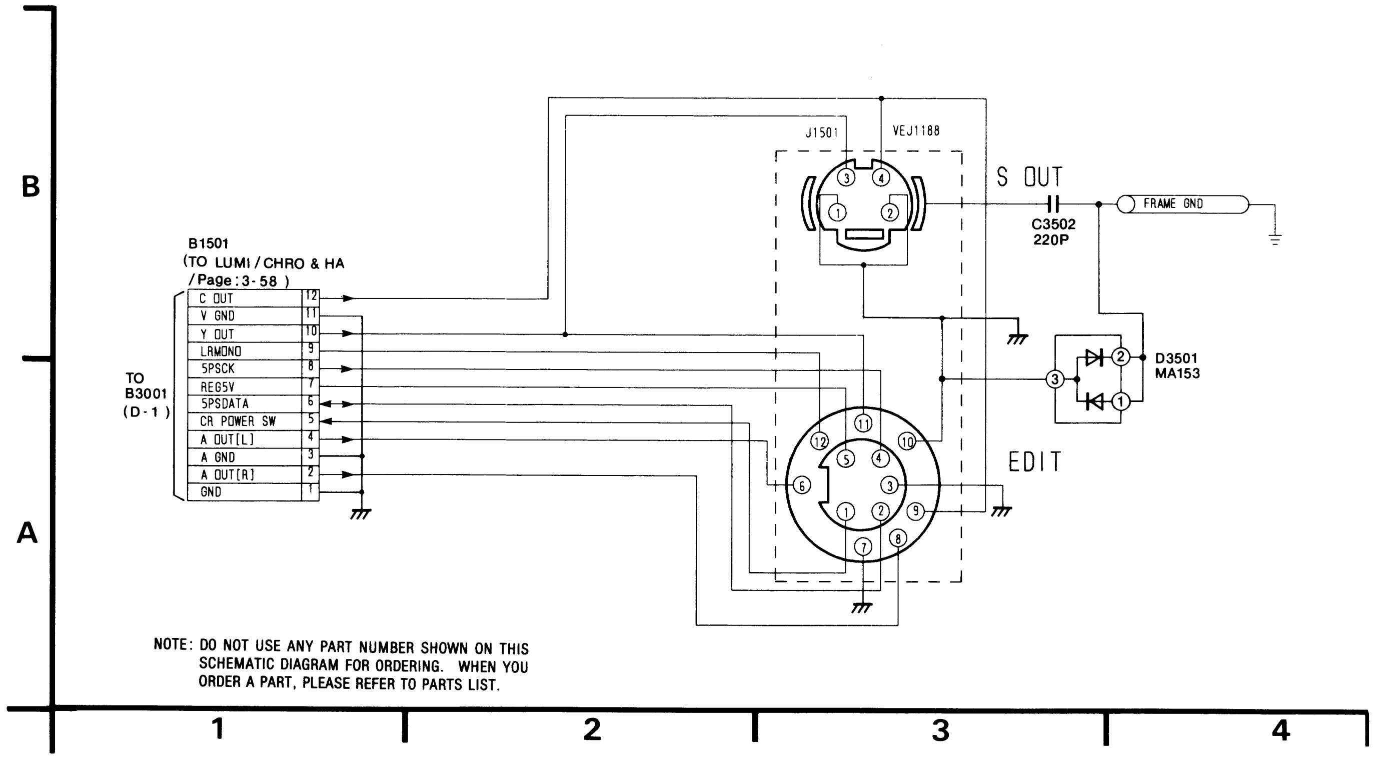
IC BLOCK

IC4301 (μPC2356GS)


38
37
36
35
34
33
32
31
30
29
28
27
26
25
24
23
22
21
20
VCC
NC
ECM POWER
-1
10dB
10dB
20dB
COMPA-RATOR
SW DRIVER
RECTIFIER
1/2VCC BUFFER
-1
10dB
10dB
10dB
20dB
-1
20dB
GND
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19

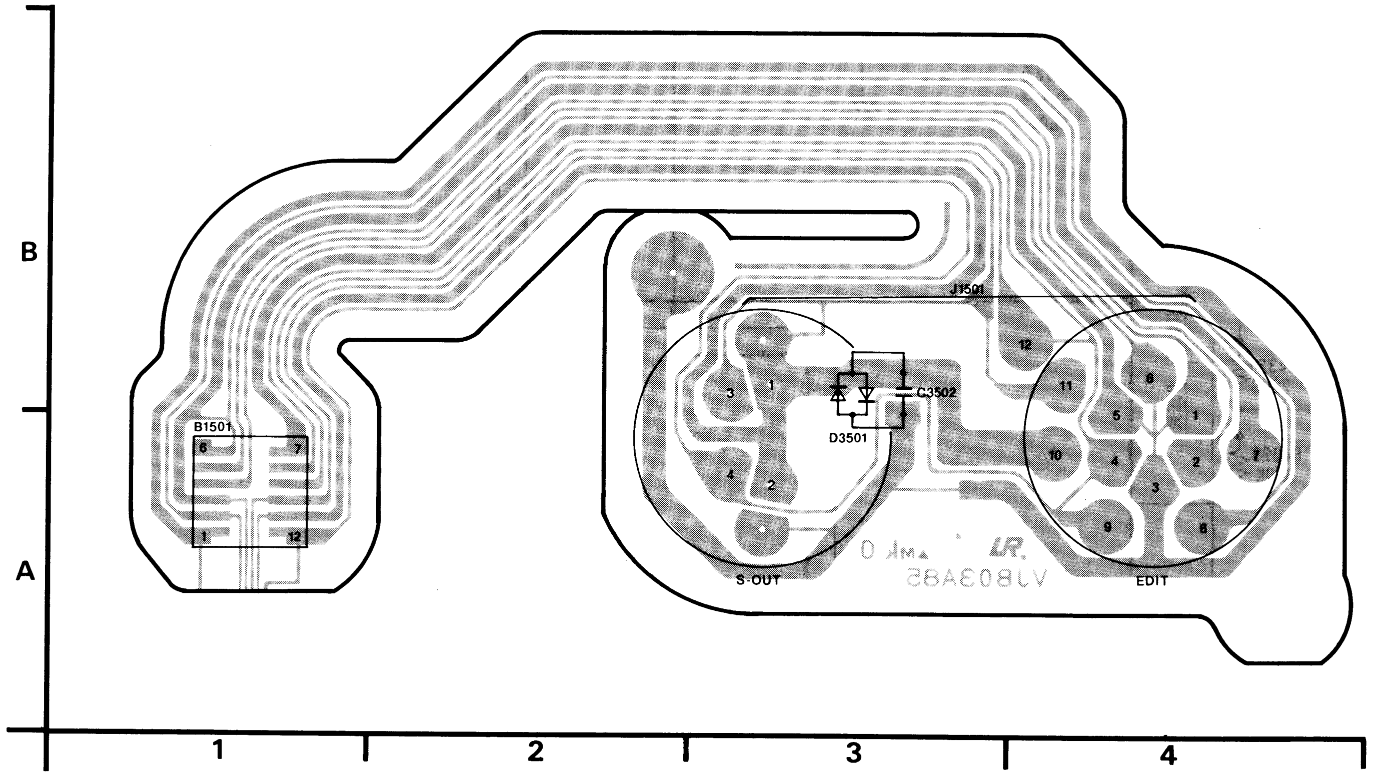
Next Page:
S JACK/C.B. LAYOUT Section

3-38. S JACK SCHEMATIC DIAGRAM


B
A
1
2
3
4
B1501
(TO LUMI / CHRO & HA
/Page : 3-58)
C OUT 12
V GND 11
Y OUT 10
LRMONO 9
5PSCK 8
REG5V 7
5PSDATA 6
CR POWER SW 5
A OUT[L] 4
A GND 3
A OUT[R] 2
GND 1
TO
B3001
(D-1)
J1501
VEJ1188
S OUT
C3502
220P
FRAME GND
D3501
MA153
EDIT

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

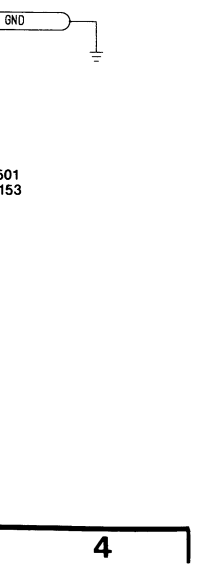
3-39. S JACK C.B.A. (VEK6451)


B
A
1
2
3
4
B1501
J1501
C3502
D3501
S-OUT
EDIT

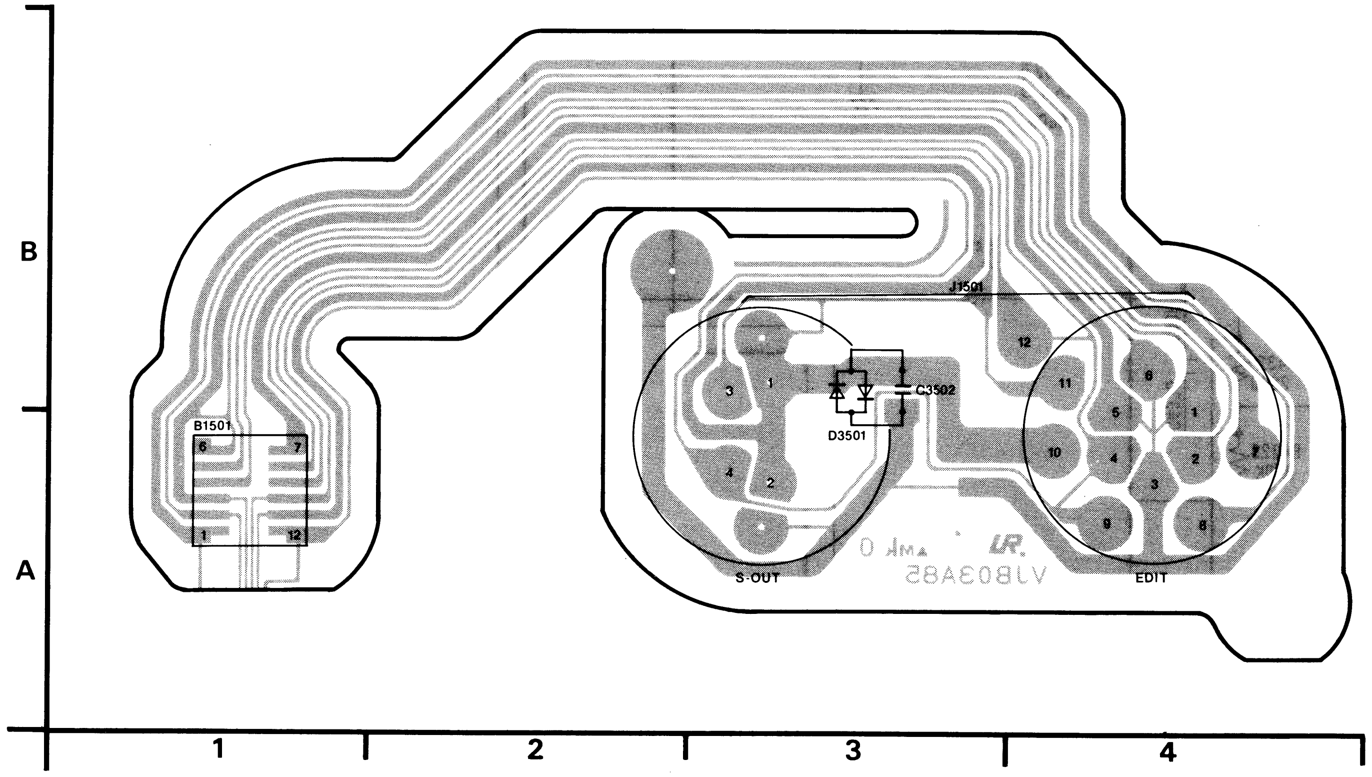
3-40. CIRCU

AWT C.B.A.

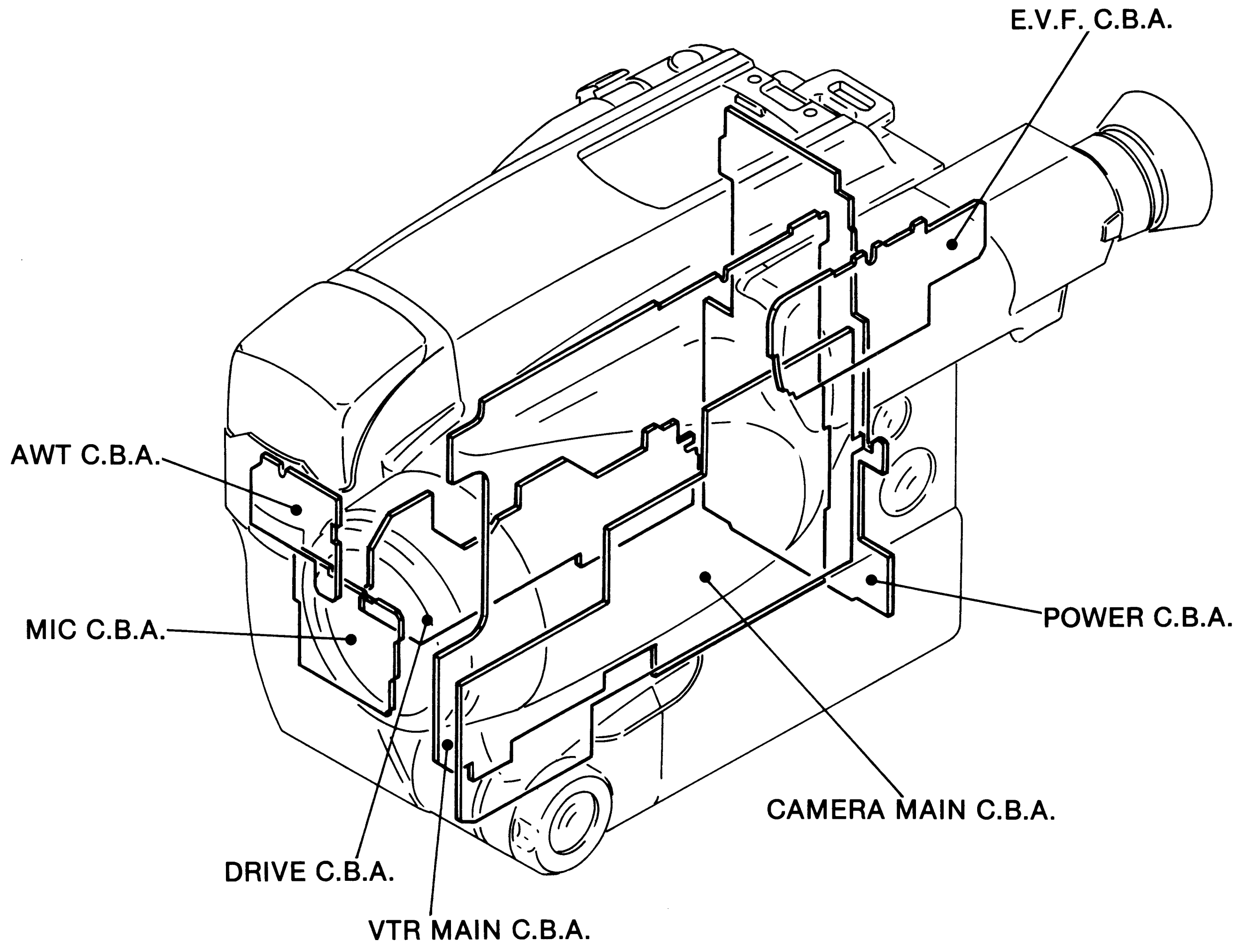
MIC C.B.A.


GND
501
153
4

3-39. S JACK C.B.A. (VEK6451)

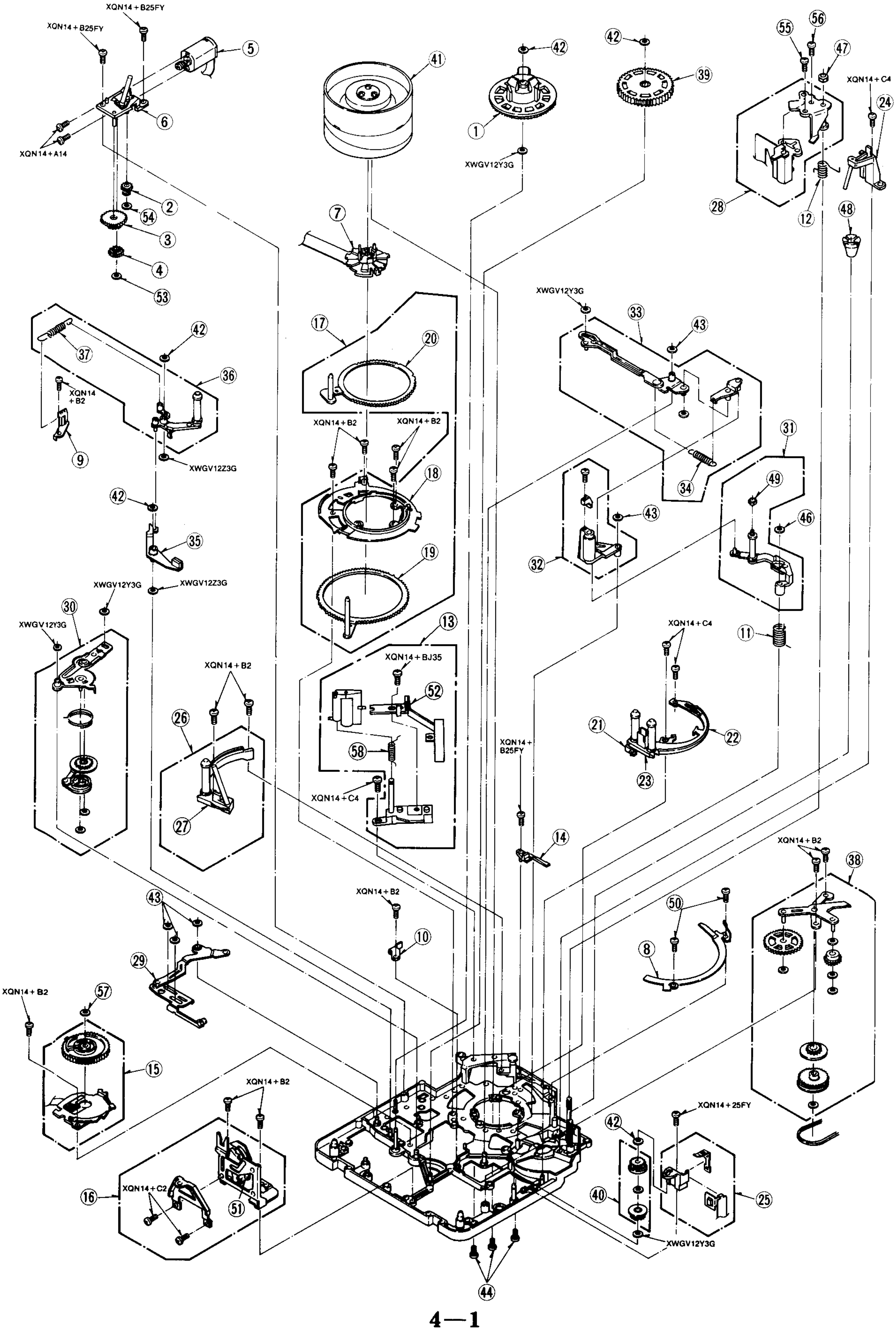

B
A
1
2
3
4
B1501
6
7
1
12
J1501
12
11
10
6
5
1
4
2
7
3
9
8
3
1
4
2
D3501
C3502
S-OUT
EDIT

3-40. CIRCUIT BOARD LAYOUT

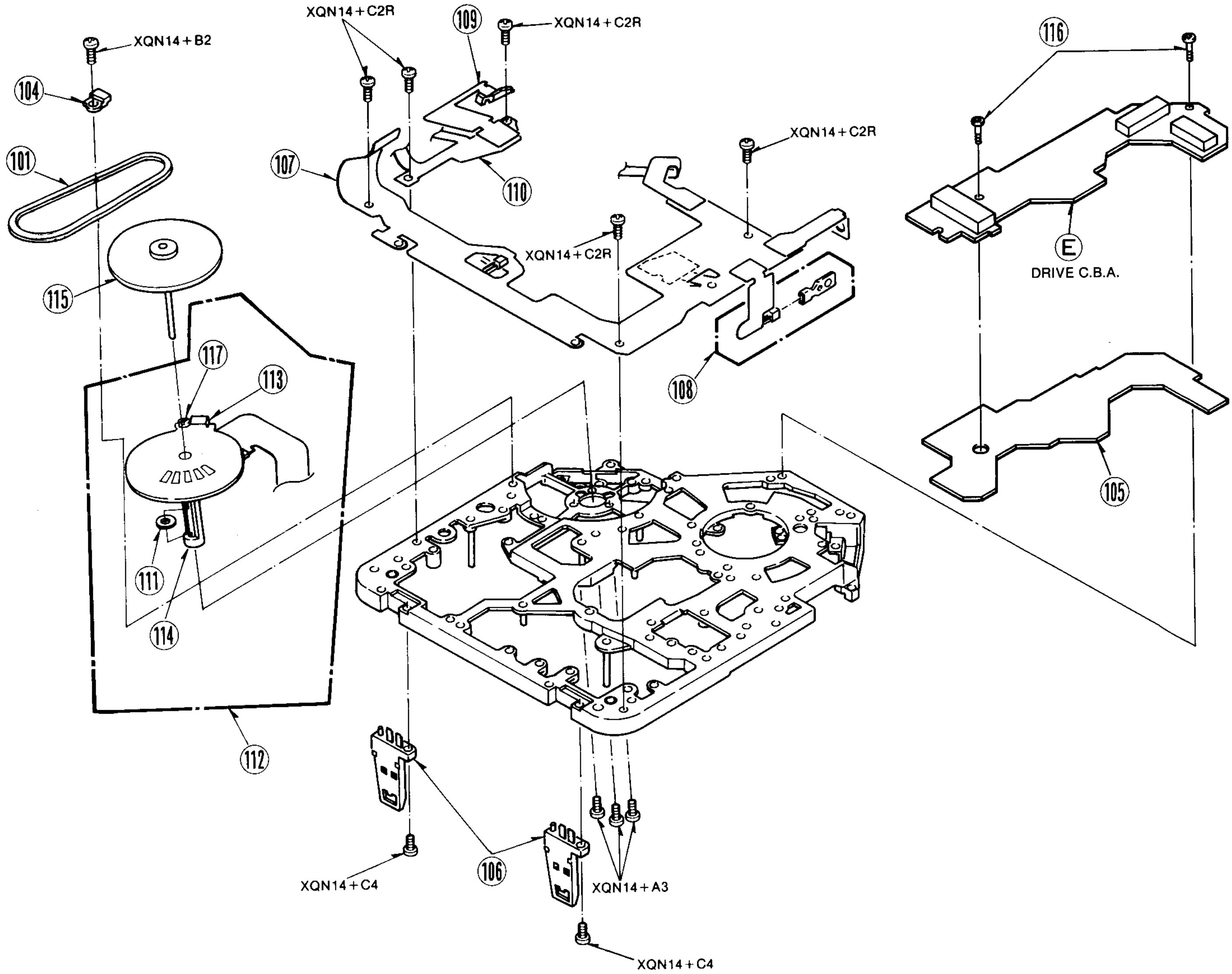

E.V.F. C.B.A.
AWT C.B.A.
MIC C.B.A.
POWER C.B.A.
CAMERA MAIN C.B.A.
DRIVE C.B.A.
VTR MAIN C.B.A.

SECTION 4
EXPLODED VIEWS & PARTS LIST

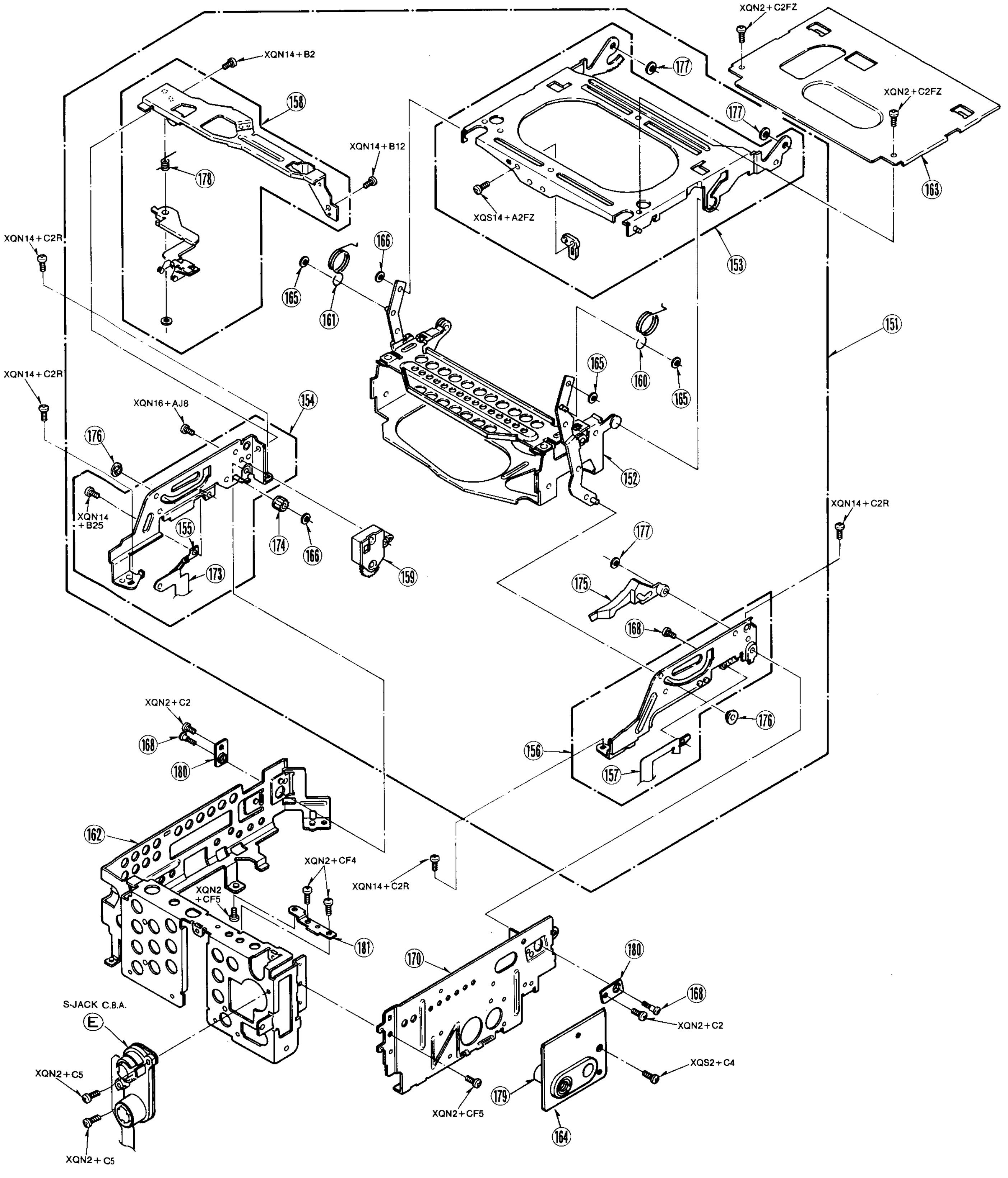
4-1. EXPLODED VIEWS ❶ VTR MECHANISM SECTION (1)


XQN14+B25FY
XQN14+B25FY
⑤
⑥
XQN14+A14
②
(54)
③
④
(53)
㊶
⑦
㊷
①
XWGV12Y3G
㊷
㊴
(55)
(56)
㊼
XQN14+C4
㉔
㉘
⑫
㊽
㊷
㊲
㊱
XQN14
+B2
⑨
XWGV12Z3G
⑰
⑳
XQN14+B2
XQN14+B2
⑱
XWGV12Y3G
㉝
㊸
㉞
㉛
㊾
㊻
㊸
㉜
㊷
㉟
XWGV12Y3G
XWGV12Z3G
⑲
㉚
XWGV12Y3G
⑪
⑬
XQN14+BJ35
(52)
XQN14+C4
XQN14+B2
㉖
(58)
㉑
㉒
㉓
XQN14+C4
㉗
XQN14+
B25FY
⑭
XQN14+B2
㊳
XQN14+B2
㊿
⑩
⑧
㊸
㉙
XQN14+B2
(57)
⑮
XQN14+B2
XQN14+25FY
㊷
⑯
XQN14+C2
(51)
㊵
㉕
XWGV12Y3G
㊹

❷ VTR MECHANISM SECTION (2)

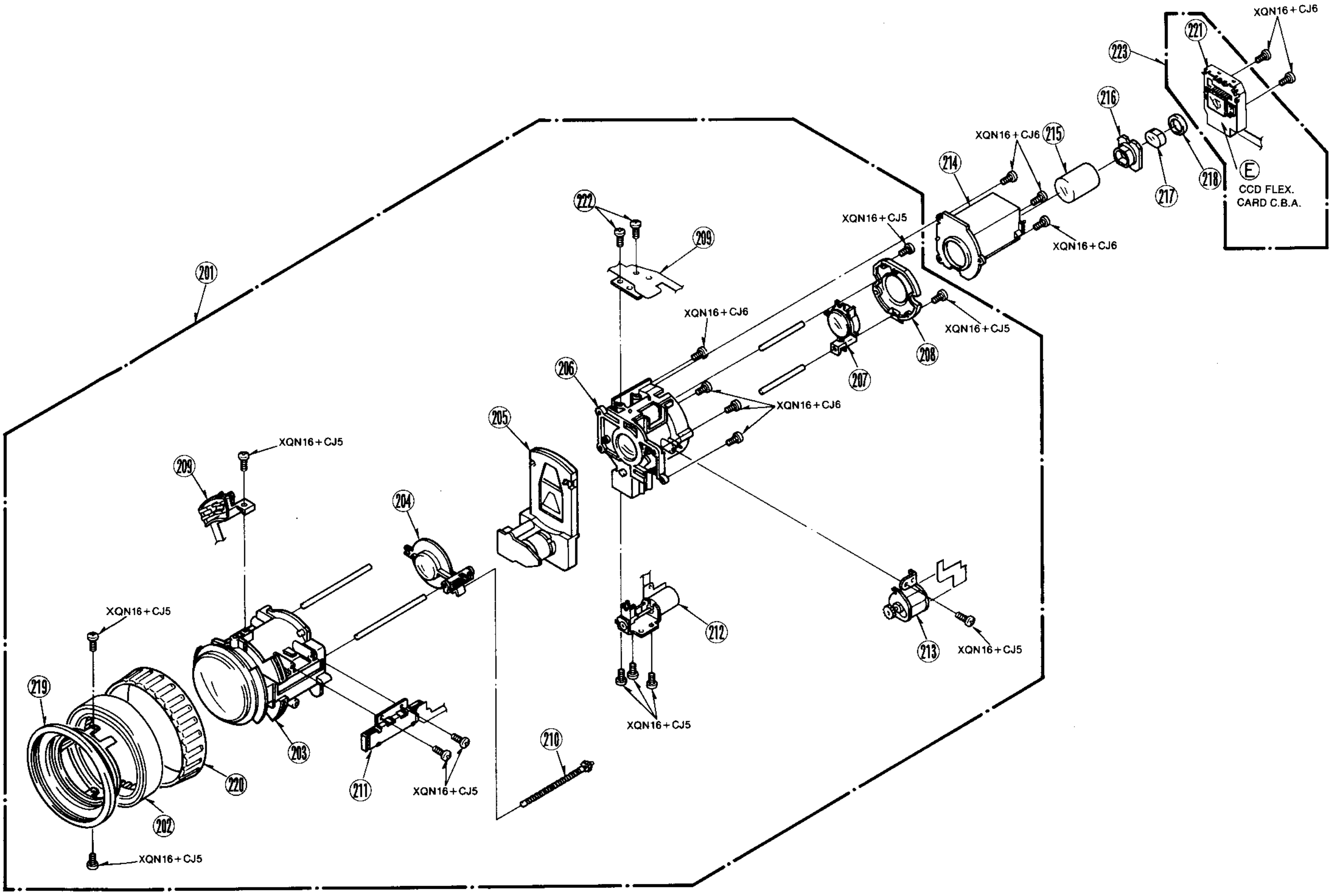

XQN14+B2
104
101
115
117
113
111
114
112
XQN14+C2R
109
XQN14+C2R
107
110
XQN14+C2R
XQN14+C2R
108
116
E
DRIVE C.B.A.
105
106
XQN14+C4
XQN14+A3
XQN14+C4

❸ VTR MECHANISM SECTION (3)

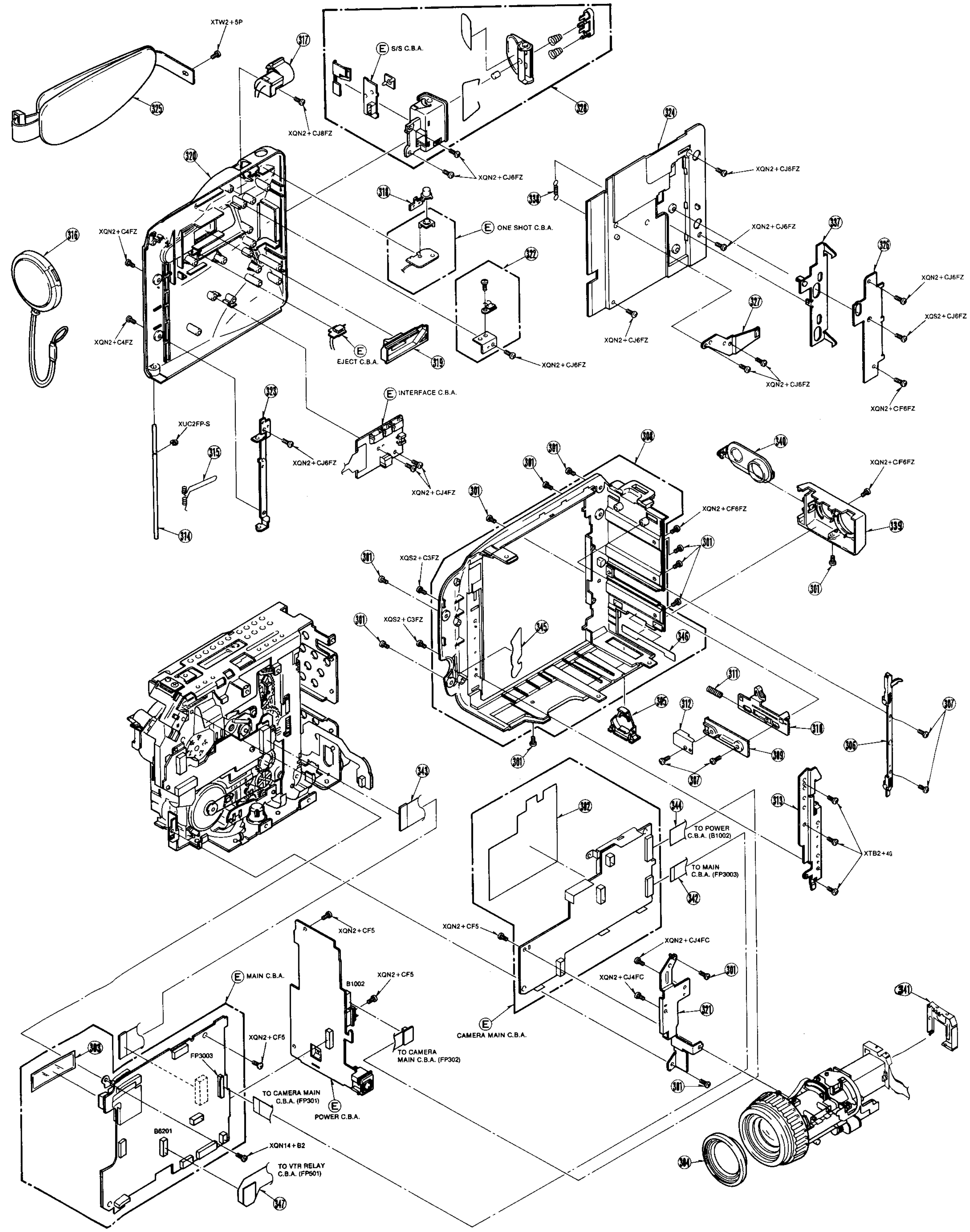


XQN2+C2FZ
XQN14+B2
177
158
177
XQN2+C2FZ
XQN14+B12
178
XQS14+A2FZ
163
XQN14+C2R
166
153
165
161
151
160
165
XQN14+C2R
165
154
XQN16+AJ8
176
152
XQN14
+B25
155
174
166
XQN14+C2R
177
173
159
175
168
176
XQN2+C2
168
156
180
157
162
XQN2+CF4
XQN14+C2R
XQN2
+CF5
181
170
180
168
S-JACK C.B.A.
E
XQN2+C2
XQS2+C4
XQN2+C5
179
XQN2+CF5
164
XQN2+C5

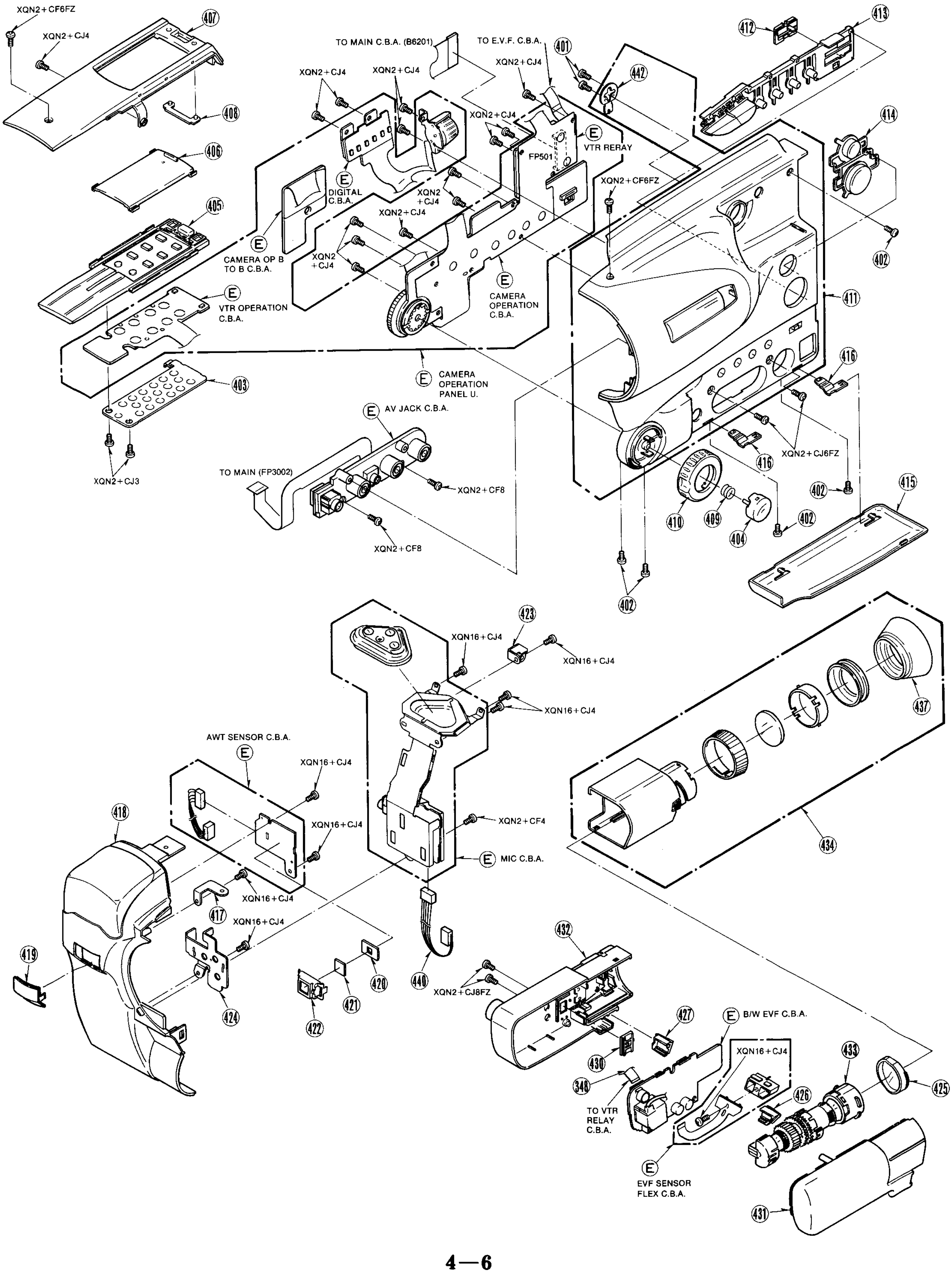
❹ CAMERA LENS SECTION


XQN16+CJ6
221
223
216
XQN16+CJ6
215
214
E
CCD FLEX.
CARD C.B.A.
217
218
222
209
XQN16+CJ5
XQN16+CJ6
201
XQN16+CJ6
208
XQN16+CJ5
206
207
XQN16+CJ6
205
XQN16+CJ5
209
204
XQN16+CJ5
212
213
XQN16+CJ5
219
203
XQN16+CJ5
210
220
211
XQN16+CJ5
202
XQN16+CJ5

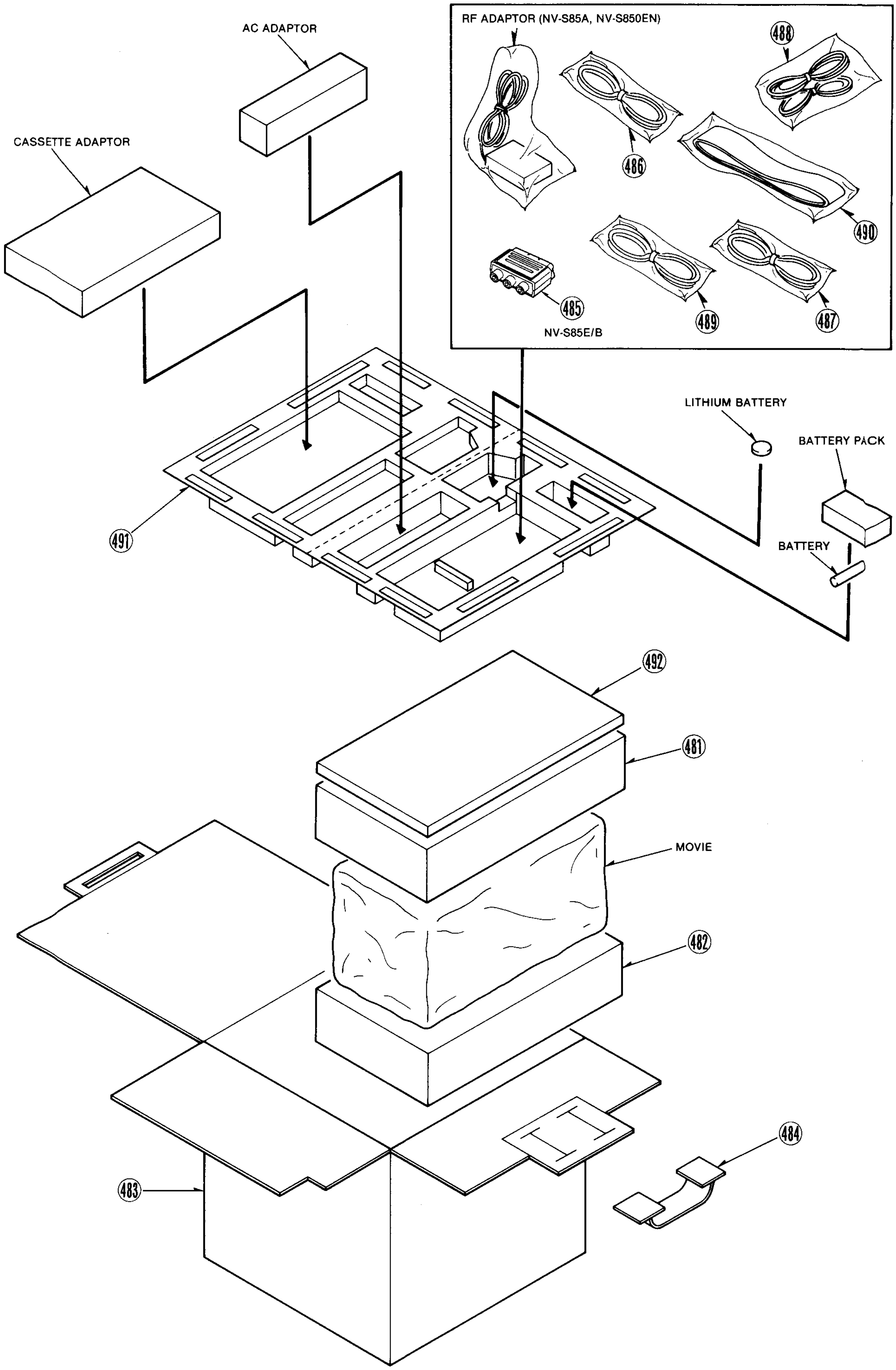
❺ FRAME & CASING PARTS SECTION (1)


XTW2+5P
317
Ⓔ S/S C.B.A.
325
328
XQN2+CJ8FZ
320
XQN2+CJ6FZ
324
XQN2+CJ6FZ
318
330
Ⓔ ONE SHOT C.B.A.
316
XQN2+C4FZ
322
XQN2+CJ6FZ
337
326
XQN2+CJ6FZ
XQS2+CJ6FZ
XQN2+C4FZ
327
Ⓔ
EJECT C.B.A.
319
XQN2+CJ6FZ
XQN2+CJ6FZ
XQN2+CF6FZ
323
Ⓔ INTERFACE C.B.A.
XUC2FP-S
315
XQN2+CJ6FZ
XQN2+CJ4FZ
314
301
308
340
XQN2+CF6FZ
XQN2+CF6FZ
339
XQS2+C3FZ
XQS2+C3FZ
345
346
311
305
312
310
309
307
306
343
302
344
TO POWER C.B.A. (B1002)
TO MAIN C.B.A. (FP3003)
342
313
XTB2+4G
XQN2+CF5
XQN2+CJ4FC
XQN2+CJ4FC
321
Ⓔ MAIN C.B.A.
B1002
XQN2+CF5
303
FP3003
XQN2+CF5
Ⓔ
CAMERA MAIN C.B.A.
TO CAMERA MAIN C.B.A. (FP302)
341
TO CAMERA MAIN C.B.A. (FP301)
Ⓔ
POWER C.B.A.
B6201
XQN14+B2
TO VTR RELAY C.B.A. (FP601)
347
304

❻ FRAME & CASING PARTS SECTION (2)


XQN2+CF6FZ
XQN2+CJ4
407
408
406
405
VTR OPERATION C.B.A.
403
XQN2+CJ3
TO MAIN C.B.A. (B6201)
XQN2+CJ4
XQN2+CJ4
DIGITAL C.B.A.
CAMERA OP B TO B C.B.A.
XQN2 +CJ4
XQN2+CJ4
XQN2 +CJ4
CAMERA OPERATION C.B.A.
CAMERA OPERATION PANEL U.
TO E.V.F. C.B.A.
XQN2+CJ4
XQN2+CJ4
FP501
VTR RERAY
401
442
XQN2+CF6FZ
412
413
414
402
411
416
416
XQN2+CJ6FZ
402
402
415
410
409
404
402
AV JACK C.B.A.
TO MAIN (FP3002)
XQN2+CF8
XQN2+CF8
423
XQN16+CJ4
XQN16+CJ4
XQN16+CJ4
437
434
AWT SENSOR C.B.A.
XQN16+CJ4
XQN16+CJ4
XQN2+CF4
MIC C.B.A.
418
XQN16+CJ4
417
XQN16+CJ4
419
424
422
421
420
440
432
XQN2+CJ8FZ
427
B/W EVF C.B.A.
430
348
TO VTR RELAY C.B.A.
XQN16+CJ4
433
426
425
EVF SENSOR FLEX C.B.A.
431
E

❼ PACKING PARTS & ACCESSORIES SECTION



AC ADAPTOR
CASSETTE ADAPTOR
RF ADAPTOR (NV-S85A, NV-S850EN)
488
486
490
485
NV-S85E/B
489
487
LITHIUM BATTERY
BATTERY PACK
BATTERY
491
492
481
MOVIE
482
483
484

4-2. MECHANICAL REPLACEMENT PARTS LIST

Note:1.* Be sure to make your orders of replacement parts according to this list.
2. IMPORTANT SAFETY NOTICE
Components identified with the mark <!> have the special characteristics for safety. When replacing any of these components,use only the same type.

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
1(1)		VDR0226	REEL BASE (S)	1	
2(1)		VDG0821	BRAKE GEAR (A)	1	
3(1)		VDG0822	BRAKE GEAR (B)	1	
4(1)		VDG0823	BRAKE GEAR (C)	1	
5(1)		VEM0417	LOADING MOTOR (1) U.	1	
6(1)		VXA4527	MOTOR HOLDER U.	1	
7(1)		VEP03876A	RT CONNECTOR U.	1	
8(1)		VMA8502	T-RING SLIDER	1	
9(1)		VMA8505	TEN-REG.SPRING HOOK	1	
10(1)		VMA8532	PENDULUM ARM HOLDER	1	
11(1)		VMB2362	T3 ARM SPRING	1	
12(1)		VMB2365	AC HEAD SPRING	1	
13(1)		VXA5108	S-GUIDE STAND U.	1	
14(1)		VMD1851	T-BOAT GUIDE	1	
15(1)		VSR0096	MODE SWITCH U.	1	
16(1)		VXA4515	LOCK BASE U.	1	
17(1)		VXA4517	LOADING RING U.	1	
18(1)		VMD1824	RING GUIDE	1	
19(1)		VXA4518	T-RING U.	1	
20(1)		VXA4519	S-RING U.	1	
21(1)		VEK5549	LED U.	1	
22(1)		VMD1828	T-RAIL	1	
23(1)		VXA4776	T-BOAT U.	1	
24(1)		VXA4528	T4 POST U.	1	
25(1)		VXA4997	T-REEL SENSOR U.	1	
26(1)		VXA4532	S-RAIL U.	1	
27(1)		VXA4525	S-BOAT U.	1	
28(1)		VXA5033	AC HEAD U.	1	
29(1)		VXL2130	EJECT LEVER U.	1	
30(1)		VXL2133	SWING ARM U.	1	
31(1)		VXL2135	T3 ARM U.	1	
32(1)		VXL2139	PINCH ARM U.	1	
33(1)		VXL2140	PINCH DRIVE ARM U.	1	
34(1)		VMB2363	PINCH PRESSURE SPRING	1	
35(1)		VXL2144	PAD ARM U.	1	
36(1)		VXL2145	TEN-REG. ARM U.	1	
37(1)		VMB2364	TEN-REG. SPRING	1	
38(1)		VXL2147	IDLER U.	1	
39(1)		VXP1308	RELAY GEAR U.	1	
40(1)		VXP1313	T-DRIVE GEAR U.	1	
41(1)		VEG1096	CYLINDER U.	1	NV-S85E
41(1)		VEG1038	CYLINDER U.	1	NV-S85B/A,S850EN
42(1)		VMX2027	WASHER	5	
43(1)		VMX2026	WASHER	5	
44(1)		VHD0682	SCREW	3	
46(1)		VMX2026	WASHER	1	
47(1)		VHN0047	NUT	1	
47(1)		VHN0047	NUT	1	
48(1)		VHN0175	ADJUST NUT	1	
49(1)		VHN0172	T3 POST NUT	1	
50(1)		VHD0711	SCREW	3	
51(1)		VMB2369	LOCK SPRING	1	
52(1)		VXS0120	EARTH BRUSH U.	1	
53(1)		VMX2027	WASHER	1	
54(1)		VMX2051	WASHER	1	
55(1)		VHD0700	SCREW	1	
56(1)		VHD0699	SCREW	1	
57(1)		VMX2026	WASHER	1	
58(1)		VMB2661	S-GUIDE SPRING	1	
101(2)		VDV0232	CAPSTAN BELT	1	
104(2)		VMD1846	CAPSTAN STOPPER	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
105(2)		VMZ1871	BARRIER	1	
106(2)		VSH0055	REC SAFETY SW U.	2	
107(2)		VWJ0719	MECH.FLEXIBLE CARD	1	
108(2)		VXA4511	PHOTO (L) U.	1	
109(2)		VXA4514	PHOTO (R) U.	1	
110(2)		VXA4997	T-REEL SENSOR U.	1	
111(2)		VDB1129	LOWER BEARING	1	
112(2)		VEK5516	STATOR U.	1	
113(2)		VBK0059	MR HEAD	1	
114(2)		VXD0134	HOUSING U.	1	
115(2)		VXP1303	ROTOR U.	1	
116(2)		VHD0681	SCREW	2	
117(2)		VHD0593	SCREW	1	
151(3)		VXA4861	GARAGE U.	1	
152(3)		VXA4506	HOLDER U.	1	
153(3)		VXA4863	GARAGE (1) U.	1	
154(3)		VXA4510	STAND (L) U.	1	
155(3)		VXA4511	PHOTO (L) U.	1	
156(3)		VXA4513	STAND (R) U.	1	
157(3)		VXA4514	PHOTO (R) U.	1	
158(3)		VXL2222	TAPE GUIDE U.	1	
159(3)		VXP1315	DUMPER	1	
160(3)		VMB2367	UP SPRING (R)	1	
161(3)		VMB2368	UP SPRING (L)	1	
162(3)		VMP4104	MAIN FRAME	1	
163(3)		VMZ2231	INNER COVER	1	
164(3)		VMD1873	TRIPOD FRAME	1	
165(3)		VMX1042	WASHER	3	
166(3)		VMX1061	WASHER	2	
168(3)		VHD0713	SCREW	3	
170(3)		VMP4103	BOTTOM FRAME	1	
173(3)		VWJ0548	PHOTO FLEX.CARD	1	
174(3)		VDG0827	DUMPER RELAY GEAR	1	
175(3)		VML2580	TAPE OPEN LEVER	1	
176(3)		VDP1406	ARM HOLDER	2	
177(3)		VMX1042	WASHER	4	
178(3)		VMB2496	TAPE GUIDE SPRING	1	
179(3)		VGQ3032	ALUMINIUM SHEET	1	
180(3)		VGQ3137	INSULATION PIECE (A)	2	
181(3)		VGQ3295	INSULATION PIECE (B)	1	
201(4)		VXW0120	LENS U.	1	
202(4)		VDW0208	FOCUS RING	1	
203(4)		VXQ0347	LENS MAIN U.	1	
204(4)		VXP1390	2ND MOVING FRAME U.	1	
205(4)		VXL2267	IRIS U.	1	
206(4)		VXQ0348	MASTER FLANGE	1	
207(4)		VXP1391	4TH MOVING FRAME U.	1	
208(4)		VMD2053	POLE GUIDE	1	
209(4)		VEK6157	LENS FLEX. U.	1	
210(4)		VXP1393	SCREW SHAFT U.	1	
211(4)		EVAJHJJ01B14	ZOOM ENCODER	1	
212(4)		VEM0436	FOCUS MOTOR U.	1	
213(4)		VEM0437	ZOOM MOTOR U.	1	
214(4)		VDW0210	MASTER FLANGE	1	
215(4)		VDL0341	GLASS	1	
216(4)		VDS0030	CRYSTAL FILTER HOLDER	1	
217(4)		VDL0322	CRYSTAL FILTER	1	
218(4)		VMX1846	CCD CUSHION	1	
219(4)		VDW0209	FOCUS RING BASE	1	
220(4)		VDW0212	FOCUS RING RUBBER	1	
221(4)		VSC3920	CCD SHIELD CASE	1	
222(4)		VHD0666	SCREW	2	
223(4)		VEK6611	CCD UNIT	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
301(5)		VHD0729	SCREW	1	
304(5)		VDW0202	LENS HOOD	1	
305(5)		VKF1707	BATTERY COVER	1	
306(5)		VYK4655	CASSETTE LOCK ANGLE U.	1	
307(5)		VHD0794	SCREW	4	
308(5)		VYK5289	SIDE CASE (L)(1)U.	1	
309(5)		VGQ3139	BATT. LOCK HOLD PLATE	1	
310(5)		VGQ3352	BATT. LOCK LEVER	1	
311(5)		VMB2483	BATT. LOCK SPRING	1	
312(5)		VMZ2215	BATT. BLIND BARRIER	1	
313(5)		VMP3909	HINGE(A)	1	
314(5)		VMS4762	SHAFT	1	
315(5)		VMB2669	SPRING	1	
316(5)		VYF1987	HOOD CAP U.	1	
317(5)		VEK6533	ZOOM OPERATION U.	1	
318(5)		VGU6399	SNAP SHOT BUTTON	1	
319(5)		VGU6428	LOCK RELEACE (EJECT) KNOB	1	
320(5)		VYP5351	CASSETTE COVER (1) UNIT	1	
321(5)		VMP4106	CAMERA FRAME	1	
322(5)		VEK6587	DEW SENSOR U.	1	
323(5)		VMP3910	HINGE(B)	1	
324(5)		VGQ3281	CASSETTE HOLDER	1	
325(5)		VYC0578	GRIP BELT U.	1	
326(5)		VMP4167	CASSETTE LOCK ANGLE HOLDER	1	
327(5)		VMC0831	CASSETTE DOWN SPRING	1	
328(5)		VXU1182	S/S BUTTON UNIT	1	
337(5)		VYK4656	CASSETTE LOCK ANGLE (B)U.	1	
338(5)		VMB2384	CASSETTE LOCK SPRING	1	
339(5)		VKM3580	S-JACK PIECE	1	
340(5)		VKF2080	S-JACK COVER	1	
341(5)		VSC3919	CCD SHIELD CASE (UPPER)	1	
342(5)		VJB00T79	CAM-MAIN FLEX. CARD	1	
343(5)		VWJ0738	DRIVE-MAIN FLEX. CARD	1	
344(5)		VEP00T88A	CAM-POWER FLEX.CARD	1	
345(5)		VGQ3315	HOOKING BLINDER SHEET	1	
346(5)		VMZ2220	BATT. BLINDER BARRIER (B)	1	
347(5)		VJB00T81	MAIN-VTR RELAY FLEX.CARD	1	
348(5)		VJB00T92	EVF-VTR FLEX CARD	1	
401(6)		VHD0793	SCREW	2	
402(6)		VHD0729	SCREW	1	
403(6)		VMP4169	VTR OPERATION HOLD PLATE	1	
404(6)		VGU6391	MODE BUTTON	1	
405(6)		VYK5298	VTR OPETRATION PANEL U.	1	
406(6)		VGQ3272	CURSOR	1	
407(6)		VKM3594	TOP CASE	1	
408(6)		VGL0575	PANEL LIGHT	1	
409(6)		VMB2531	MODE KNOB SPRING	1	
410(6)		VGU6392	MODE SELECT LEVER	1	
411(6)		VYK5285	SIDE CASE (R)(1)U.	1	NV-S85E
411(6)		VYK5318	SIDE CASE (R)(1)U.	1	NV-S85B/A,S850EN
412(6)		VGU6396	Hi-Fi SELECT KNOB	1	
413(6)		VGU6394	CAMERA OPERATION BUTTON	1	
414(6)		VGU6398	FADE/DATE BUTTON	1	
415(6)		VKF2079	AV JACK DOOR	1	NV-S85E/B/A
415(6)		VKF2090	AV JACK DOOR	1	NV-S850EN
416(6)		VKC0420	AV JACK HINGE	2	
417(6)		VMP4221	FRONT FIXING ANGLE (C)	1	
418(6)		VYK5287	FRONT CASE (1)U.	1	
419(6)		VKW1804	AWT SENSOR WINDOW	1	
420(6)		VGQ3306	IR PLATE SPACER	1	
421(6)		VDL0397	IR CUT FILTER	1	
422(6)		VGQ3310	IR PLATE HOLDER	1	
423(6)		VMP4171	FRONT FIXING ANGLE (B)	1	
424(6)		VMP4107	FRONT FIXING ANGLE (A)	1	
425(6)		VKW1806	PROTECTION PANEL	1	
426(6)		VKW1813	SENSOR WINDOW (R)	1	
427(6)		VKW1805	SENSOR WINDOW (L)	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
430(6)		VGU6413	APS KNOB	1	
431(6)		VKM3578	EVF CASE (R)	1	
432(6)		VYK5290	EVF CASE (L)U.	1	
433(6)		M01KUA07WB01	ITC	1	
434(6)		VYQ0905	SLIDE CASE U.	1	
437(6)		VMG0793	EYE CAP	1	
440(6)		VEE8637	MIC CONNECTOR CABLE	1	
442(6)		VMC0961	ROTATION LOCK SPRING	1	
481(7)		VPN3741	CUSHION (UPPER)	1	
482(7)		VPN3742	CUSHION (LOWER)	1	
483(7)		VPG7113	PACKING CASE	1	NV-S85E
483(7)		VPG7146	PACKING CASE	1	NV-S85B
483(7)		VPG7147	PACKING CASE	1	NV-S85A
483(7)		VPG7148	PACKING CASE	1	NV-S850EN
484(7)		VPN2329	HANDLE	1	
485(7)		VFA0151	21 PIN ADAPTOR	1	NV-S85E/B
486(7)		VJA0664	AC CABLE	1	NV-S85E, S850EN
486(7)		VJA0733	AC CABLE	1	NV-S85B
486(7)		VJA0754	AC CABLE	1	NV-S85A
487(7)		VJA0769	DC INPUT CABLE	1	
488(7)		VFA0028	AV OUTPUT CABLE	1	
489(7)		VJA0658	4PIN S-VHS CABLE	1	
490(7)		VFC1528	SHOLDER STRAP	1	
491(7)		VPN3619	ACCESSORY BOX	1	
492(7)		VQT5389	OPERATING INSTRUCTIONS	1	NV-S85E
			(ENGLISH/GERMAN/FRENCH		
			/SPANISH)		
492(7)		VQT5390	OPERATING INSTRUCTIONS	1	NV-S85E
			(ITALIAN/DUTCH/SWEDISH		
			/DANISH)		
492(7)		VQT5412	OPERATING INSTRUCTIONS	1	NV-S85B
			(ENGLISH)		
492(7)		VQT5414	OPERATING INSTRUCTIONS	1	NV-S85A
			(ENGLISH)		
492(7)		VQT5415	OPERATING INSTRUCTIONS	1	NV-S850EN
			(ENGLISH/CHINESE/ARABIC		
			/HINDY)		
			**** JIG & TOOLS *****		
			------ ELECTRICAL -------		
		VFM8180HUPF	VHS-C ALIGMENT TAPE	1	PAL
		VFK0374	COLOUR TEMP.CONV.FILRTER	1	(C12) OR VFK0713
		VFK0375	COLOUR TEMP.CONV.FILRTER	1	(C2) OR VFK0716
		VFK0644	EVR FIXTURE	1	
		VFK0701ROM21	ROM	1	FOR EVR FIXTURE
		VFK0766A	EVR CONNECTION CABLE 5P	1	FOR EVR FIXTURE
		VFK0734W	MEASUREMENT CABLE 24P	1	FOR EVR FIXTURE
		VFK0670	FLAT CABLE 18P	1	
		VFK0710	FLAT CABLE 23P	1	
		VFK0723	EXTENSION CABLE 22P	1	
		VFK0727	FLAT CABLE 16P	1	
		VFK0728	FLAT CABLE 9P	1	
		VFK0729	FLAT CABLE 6P	1	
		VFK0841	EXTENSION CABLE 28P	1	
		VFK0896	FLAT CABLE 23P	1	
		VFK0913	FLAT CABLE 18P	1	
		VFK0933	FLAT CABLE 10P	1	
			---- MECHANICAL ------		
		VFK0743	H-POSITION ADJUSTMENT	1	
		VFK0824	ASTERISK TYPE RENCH	1	
		VFK0335	RETAINING RING REMOVER	1	
		VFK0329	POST ADJ. SCREW DRIVER	1	
		VFK0326	HEX WRENCH SET	1	
		VFK27	HEAD CLEANING STICK	1	
		MOR265	MORLTONE GREASE	1	

4-3. ELECTRICAL REPLACEMENT PARTS LIST

Note:1.Be sure to make your orders of replacement parts according to this list.
2.IMPORTANT SAFETY NOTICE : Components identified with the mark <!> have the special characteristics for safety. When replacing any of these components,use only the same type.
3.Unless otherwise specified.
All resistors are in OHMS , K=1,000 OHMS. All capacitors are in MICRO-FARADS(uf),P=uuF.
4.The P.C.Board units marked width'■'show below the main assembled parts.
5.The marking(RTL) indicates the retention time is limited for this item. After the discontinuation of this assembly in production, it will no longer be available.

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
			------CAMERA SECTION-------		
		VEP23169A	CAMERA MAIN C.B.A.	1	(RTL)
		VEP22133A	CCD FLEXIBLE CARD C.B.A.	1	(RTL)
		VEP23179B	AWT SENSOR C.B.A.	1	(RTL)
		ESU39010	CAMERA OPERATION UNIT	1	(RTL)
			-------E.V.F. SECTION------		
		VEK6550	EVF SENSOR FLEX. C.B.A.	1	(RTL)
		VEP28069A	B/W E.V.F. C.B.A.	1	(RTL)
		VEK6621	MIC UNIT C.B.A.	1	(RTL)
			---------VTR SECTION-------		
		VEP03A55A	VTR MAIN C.B.A.	1	(RTL)
		VEP01555A	POWER C.B.A.	1	(RTL)
		VEP06899A	INTERFACE C.B.A.	1	(RTL)
		VEP02418A	DRIVE C.B.A.	1	(RTL)
		VEK6450	AV JACK C.B.A.	1	(RTL)
		VEK6451	S-JACK C.B.A.	1	(RTL)
		VEK6547	EJECT C.B.A.	1	(RTL)
		VEK6549	SNAP C.B.A.	1	(RTL)
		VEK6577	S/S POWER SW C.B.A.	1	(RTL)
	■	VEP23169A	CAMERA MAIN C.B.A.		(RTL)
B202		VJP2962A012	CONNECTOR (MALE) 12P	1	
B301		VJP3240C022	CONNECTOR (MALE) 22P	1	
B302		VJP2962A024	CONNECTOR (MALE) 24P	1	
C202,03		ECUX1H270JCV	C.CAPACITOR CH 50V 27P	2	
C204		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C209		ECST1CY335Z	T.CAPACITOR 16V 3.3U	1	
C211		ECST1GX155ZR	T.CAPACITOR 16V 1.5U	1	
C213,14		ECUX1H270JCV	C.CAPACITOR CH 50V 27P	2	
C216,17		ECUX1H270JCV	C.CAPACITOR CH 50V 27P	2	
C222		ECUX1H120JCV	C.CAPACITOR CH 50V 12P	1	
C223		ECRJA020E11	CAPACITOR	1	
C224		ECST1AX106Z	T.CAPACITOR 10V 10U	1	
C227		ECST0JX226Z	T.CAPACITOR 6.3V 22U	1	
C228		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C229,30		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	2	
C231		ECST0GY106Z	T.CAPACITOR 6.3V 10U	1	
C232		ECST0GX226Z	T.CAPACITOR 6.3V 22U	1	
C233		ECST0JY106Z	T.CAPACITOR 6.3V 10U	1	
C234		ECUX1H180JCV	C.CAPACITOR CH 50V 18P	1	
C235		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C236		ECST0JX226Z	T.CAPACITOR 6.3V 22U	1	
C237-39		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	3	
C241		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C242		ECUM1H473ZFV	C.CAPACITOR CH 50V 0.047U	1	
C243		ECST0JY106Z	T.CAPACITOR 6.3V 10U	1	
C245		ECST1DX475ZR	T.CAPACITOR 4.7U	1	
C246		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C248		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C249		ECUX1H150JCV	C.CAPACITOR CH 50V 15P	1	
C250		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C252		ECUX1H100CCV	C.CAPACITOR CH 50V 10P	1	
C254		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C256,57		ECUX1H100CCV	C.CAPACITOR CH 50V 10P	2	
C259		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C262		ECUX1H330JCV	C.CAPACITOR CH 50V 33P	1	
C263,64		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	2	
C266		ECST0JY106Z	T.CAPACITOR 6.3V 10U	1	
C268,69		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	2	
C270		ECUX1H050CCV	C.CAPACITOR CH 50V 5P	1	
C271		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C272		ECUX1H100CCV	C.CAPACITOR CH 50V 10P	1	
C273		ECUX1H150JCV	C.CAPACITOR CH 50V 15P	1	
C274		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C275		ECUX1H150JCV	C.CAPACITOR CH 50V 15P	1	
C276-78		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	3	
C301		ECUX1H820JCV	C.CAPACITOR CH 50V 82P	1	
C302		ECUX1H101JCV	C.CAPACITOR CH 50V 100P	1	
C304		ECST0JY106Z	T.CAPACITOR 6.3V 10U	1	
C305		ECUX1H102KBV	C.CAPACITOR CH 50V 1000P	1	
C306		ECST0JY106Z	T.CAPACITOR 6.3V 10U	1	
C307		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C308		ECUM1C474ZFN	C.CAPACITOR CH 16V 0.47U	1	
C309		ECUX1H151JCV	C.CAPACITOR CH 50V 150P	1	
C310		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C314-16		ECST0JY106Z	T.CAPACITOR 6.3V 10U	3	
C317,18		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	2	
C319		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C320		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C321-23		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	3	
C324		ECST0JY106Z	T.CAPACITOR 6.3V 10U	1	
C325,26		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	2	
C327		ECST0JY106Z	T.CAPACITOR 6.3V 10U	1	
C328		ECUM1C104KBN	C.CAPACITOR CH 16V 0.1U	1	
C330		ECST0JY106Z	T.CAPACITOR 6.3V 10U	1	
C331		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C332		ECUX1H102KBV	C.CAPACITOR CH 50V 1000P	1	
C333		ECST0JY106Z	T.CAPACITOR 6.3V 10U	1	
C334		ECUX1H102KBV	C.CAPACITOR CH 50V 1000P	1	
C335,36		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	2	
C337-40		ECUX1H560JCV	C.CAPACITOR CH 50V 56P	4	
C341		ECUM1C104KBN	C.CAPACITOR CH 16V 0.1U	1	
C342		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C343		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C344		ECUX1H560JCV	C.CAPACITOR CH 50V 56P	1	
C345		ECUX1H102KBV	C.CAPACITOR CH 50V 1000P	1	
C348		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C349		ECST0JY106Z	T.CAPACITOR 6.3V 10U	1	
C350		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C351		ECUX1H102KBV	C.CAPACITOR CH 50V 1000P	1	
C352		ECST0JY106Z	T.CAPACITOR 6.3V 10U	1	
C353		ECUM1C104KBN	C.CAPACITOR CH 16V 0.1U	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C354-56		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	3	
C357		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C358,59		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	2	
C360		ECUX1H560JCV	C.CAPACITOR CH 50V 56P	1	
C361		ECUX1H470JCV	C.CAPACITOR CH 50V 47P	1	
C701		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C703,04		ECST0JY106Z	T.CAPACITOR 6.3V 10U	2	
C709		ECUX1H332KBV	C.CAPACITOR CH 50V 3300P	1	
C713		ECUM1C104KBN	C.CAPACITOR CH 16V 0.1U	1	
C718		ECEV1CA470P	E.CAPACITOR 16V 47U	1	
C719		ECUX1H102KBV	C.CAPACITOR CH 50V 1000P	1	
C721		ECUX1H102KBV	C.CAPACITOR CH 50V 1000P	1	
C724,25		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	2	
C726		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C727,28		ECST0JY106Z	T.CAPACITOR 6.3V 10U	2	
C729		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C731		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C732		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C740,41		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	2	
C742		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
D201		MA110	DIODE	1	
D203		MA110	DIODE	1	
D207-09		MA110	DIODE	3	
D301		MA110	DIODE	1	
D302-04		MA728	DIODE	3	
D701,02		1SS319	DIODE	2	
FL201		VLF1058	FILTER	1	
FP301		VJS3319D018	CONNECTOR (FEMALE) 18P	1	
FP304		VJS2959B018	CONNECTOR (FEMALE) 18P	1	
FP701		VJS2958B024	CONNECTOR (FEMALE) 24P	1	
IC201		VEFH38A	IC	1	
IC202		TC7SU04F	IC	1	
IC203		AN2018S	IC	1	
IC204		AN2034FAP	IC	1	
IC301		MN6576H	IC	1	
IC302		MN67321	IC	1	
IC303		MN67332	IC	1	
IC304		L7A1038	IC	1	
IC305		MN65702H	IC	1	
IC306		T90CK78F3414	IC	1	
IC307		ZA4033	IC	1	
IC308		MN1864002V8P	IC	1	
IC309		MN73512XWAS	IC	1	
IC310		M62352GP	IC	1	
IC311		X25040S-3C70	IC	1	
IC313		M62352GP	IC	1	
IC314		TC9074F	IC	1	
IC315		TC4S66F	IC	1	
IC701		TC4S584F	IC	1	
IC702		LB1830M	IC	1	
IC703		TB6512F	IC	1	
IC705		LM358DB	IC	1	
IC706,07		LM324DB	IC	2	
L203-05		ELJFC150JB	COIL 15UH	3	
L206		ELJPC6R8KF	COIL 6.8UH	1	
L207		VLQ0426J680	COIL 68UH	1	
L208		VLQ0426J330	COIL 33UH	1	
L209		VLP0154	COIL	1	
L210		VLQ0426J390	COIL 39UH	1	
L211,12		VLP0154	COIL	2	
L213		ELJFC150JB	COIL 15UH	1	
L214		VLP0145	COIL	1	
L220		VLQ0426J3R3	COIL 3.3UH	1	
L224		VLP0145	COIL	1	
L303,04		ELJPC6R8KF	COIL 6.8UH	2	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
L305		VLP0146	COIL	1	
L306,07		ELJPC6R8KF	COIL 6.8UH	2	
L308		VLP0140	COIL	1	
L309		ELJPC6R8KF	COIL 6.8UH	1	
L310		VLP0146	COIL	1	
L313		VLP0140	COIL	1	
L314		ELJFC150JB	COIL 15UH	1	
L315		ELJFC220JB	COIL 22UH	1	
L316		VLQ0426J390	COIL 39UH	1	
L317		ELJPC6R8KF	COIL 6.8UH	1	
L318		VLQ0426J390	COIL 39UH	1	
L319		VLP0145	COIL	1	
L320		VLQ0426J680	COIL 68UH	1	
L321		VLP0140	COIL	1	
L322		VLP0145	COIL	1	
L323-26		ELJPC6R8KF	COIL 6.8UH	4	
L329		VLP0140	COIL	1	
L330		VLP0145	COIL	1	
L331		VLP0140	COIL	1	
L332		VLP0146	COIL	1	
L701		ELJPC6R8KF	COIL 6.8UH	1	
L703-05		ELJPC6R8KF	COIL 6.8UH	3	
L706		ELJFC150JB	COIL 15UH	1	
L707		VLQ0319F150	COIL 15UH	1	
P302		VJP3125D005	CONNECTOR (MALE) 5P	1	
Q201		2SD2216	TRANSISTOR	1	
Q202		XP4654	TRANSISTOR-TRANSISTOR	1	
Q207,08		XP4654	TRANSISTOR-TRANSISTOR	2	
Q210		2SB1462	TRANSISTOR	1	
Q301		2SC3931	TRANSISTOR	1	
Q302		XP4501	TRANSISTOR-RESISTOR	1	
Q303		XP1501	TRANSISTOR-RESISTOR	1	
Q704,05		2SD2216	TRANSISTOR	2	
QR301		UN9211	TRANSISTOR-RESISTOR	1	
QR701,02		UN9211	TRANSISTOR-RESISTOR	2	
R201		ERJ2GEJ105	M.RESISTOR CH 2W 1M	1	
R203		ERJ2GEJ102	M.RESISTOR CH 2W 1K	1	
R204		ERJ2GEJ105	M.RESISTOR CH 2W 1M	1	
R205		ERJ2GEJ102	M.RESISTOR CH 2W 1K	1	
R211		ERJ2GEJ105	M.RESISTOR CH 2W 1M	1	
R218		ERJ2GEJ101	M.RESISTOR CH 2W 1K	1	
R219		ERJ2GEJ330	M.RESISTOR CH 2W 33	1	
R220		ERJ2GEJ221	M.RESISTOR CH 2W 220	1	
R221		ERJ2GEJ102	M.RESISTOR CH 2W 1K	1	
R224		ERJ2GEJ330	M.RESISTOR CH 2W 33	1	
R225		ERJ2GEJ681	M.RESISTOR CH 2W 680	1	
R227		ERJ2GE0R00	M.RESISTOR CH 2W 0	1	
R228		ERJ2GEJ103	M.RESISTOR CH 2W 10K	1	
R229		ERJ2GEJ472	M.RESISTOR CH 2W 4.7K	1	
R230		ERJ3GEYJ681	M.RESISTOR CH 1/16W 680	1	
R231		ERJ2GEJ103	M.RESISTOR CH 2W 10K	1	
R236		ERJ2GEJ681	M.RESISTOR CH 2W 680	1	
R237		ERJ2GEJ222	M.RESISTOR CH 2W 2.2K	1	
R238		ERJ2GEJ272	M.RESISTOR CH 2W 2.7K	1	
R239		ERJ2GEJ101	M.RESISTOR CH 2W 1K	1	
R243		ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R246		ERJ2GEJ823	M.RESISTOR CH 2W 82K	1	
R247		ERJ2GEJ103	M.RESISTOR CH 2W 10K	1	
R248		ERJ2GEJ102	M.RESISTOR CH 2W 1K	1	
R250		ERJ2GEJ561	M.RESISTOR CH 2W 560	1	
R251		ERJ2GEJ222	M.RESISTOR CH 2W 2.2K	1	
R252		ERJ2GEJ332	M.RESISTOR CH 2W 3.3K	1	
R253		ERJ2GEJ472	M.RESISTOR CH 2W 4.7K	1	
R254-56		ERJ2GEJ102	M.RESISTOR CH 2W 1K	3	
R257		ERJ2GEJ331	M.RESISTOR CH 2W 330	1	
R258		ERJ2GEJ183	M.RESISTOR CH 2W 18K	1	
R259		ERJ2GEJ681	M.RESISTOR CH 2W 680	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R260		ERJ2GEJ102	M.RESISTOR CH 2W 1K	1	
R261		ERJ2GEJ101	M.RESISTOR CH 2W 1K	1	
R262		ERJ2GEJ331	M.RESISTOR CH 2W 330	1	
R263		ERJ2GEJ223	M.RESISTOR CH 2W 22K	1	
R264		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R270		ERJ2GEJ154	M.RESISTOR CH 2W 150K	1	
R272		ERJ2GEJ393	M.RESISTOR CH 2W 39K	1	
R277		ERJ2GEJ681	M.RESISTOR CH 2W 680	1	
R279,80		ERJ2GE0R00	M.RESISTOR CH 2W 0	2	
R281,82		ERJ2GEJ101	M.RESISTOR CH 2W 1K	2	
R283-89		ERJ2GEJ330	M.RESISTOR CH 2W 33	7	
R291		ERJ2GEJ152	M.RESISTOR CH 2W 1.5K	1	
R292		ERJ3GEYJ221	M.RESISTOR CH 1/16W 220	1	
R293		ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	
R294		ERJ2GE0R00	M.RESISTOR CH 2W 0	1	
R295		ERJ2GEJ331	M.RESISTOR CH 2W 330	1	
R301		ERJ3GEYJ221	M.RESISTOR CH 1/16W 220	1	
R302,03		ERJ2GEJ223	M.RESISTOR CH 2W 22K	2	
R304-07		ERJ2GEJ102	M.RESISTOR CH 2W 1K	4	
R309		ERJ2GEJ333	M.RESISTOR CH 2W 33K	1	
R312,13		ERJ2GEJ333	M.RESISTOR CH 2W 33K	2	
R314		ERJ2GEJ472	M.RESISTOR CH 2W 4.7K	1	
R315		ERJ2GE0R00	M.RESISTOR CH 2W 0	1	
R316		ERJ2GEJ102	M.RESISTOR CH 2W 1K	1	
R317		ERJ2GEJ563	M.RESISTOR CH 2W 56K	1	
R318		ERJ2GEJ222	M.RESISTOR CH 2W 2.2K	1	
R321		ERJ2GEJ473	M.RESISTOR CH 2W 47K	1	
R322,23		ERJ2GEJ105	M.RESISTOR CH 2W 1M	2	
R324,25		ERJ2GEJ473	M.RESISTOR CH 2W 47K	2	
R326		ERJ2GEJ472	M.RESISTOR CH 2W 4.7K	1	
R327		ERJ2GE0R00	M.RESISTOR CH 2W 0	1	
R328		ERJ2GEJ103	M.RESISTOR CH 2W 10K	1	
R330-33		ERJ2GEJ472	M.RESISTOR CH 2W 4.7K	4	
R334		ERJ2GEJ223	M.RESISTOR CH 2W 22K	1	
R335		ERJ2GEJ102	M.RESISTOR CH 2W 1K	1	
R336-40		ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	5	
R341-43		ERJ2GEJ102	M.RESISTOR CH 2W 1K	3	
R344		ERJ2GEJ472	M.RESISTOR CH 2W 4.7K	1	
R346-50		ERJ2GEJ101	M.RESISTOR CH 2W 1K	5	
R351		ERJ2GEJ102	M.RESISTOR CH 2W 1K	1	
R352,53		ERJ2GEJ473	M.RESISTOR CH 2W 47K	2	
R355-57		ERJ2GEJ102	M.RESISTOR CH 2W 1K	3	
R358		ERJ2GEJ473	M.RESISTOR CH 2W 47K	1	
R359		ERJ2GEJ102	M.RESISTOR CH 2W 1K	1	
R360-64		ERJ2GEJ473	M.RESISTOR CH 2W 47K	5	
R367		ERJ2GEJ474	M.RESISTOR CH 2W 470K	1	
R370		ERJ2GEJ102	M.RESISTOR CH 2W 1K	1	
R372,73		ERJ2GEJ103	M.RESISTOR CH 2W 10K	2	
R374		ERJ2GEJ122	M.RESISTOR CH 2W 1.2K	1	
R375		ERJ2GEJ472	M.RESISTOR CH 2W 4.7K	1	
R376		ERJ2GEJ122	M.RESISTOR CH 2W 1.2K	1	
R377		ERJ2GEJ474	M.RESISTOR CH 2W 470K	1	
R378		ERJ2GEJ562	M.RESISTOR CH 2W 5.6K	1	
R380		ERJ2GEJ102	M.RESISTOR CH 2W 1K	1	
R381		ERJ2GEJ472	M.RESISTOR CH 2W 4.7K	1	
R382		ERJ2GEJ102	M.RESISTOR CH 2W 1K	1	
R383		ERJ2GEJ393	M.RESISTOR CH 2W 39K	1	
R384		ERJ2GEJ272	M.RESISTOR CH 2W 2.7K	1	
R385		ERJ2GEJ222	M.RESISTOR CH 2W 2.2K	1	
R388		ERJ2GE0R00	M.RESISTOR CH 2W 0	1	
R389		ERJ2GEJ102	M.RESISTOR CH 2W 1K	1	
R390		ERJ2GEJ103	M.RESISTOR CH 2W 10K	1	
R391		ERJ2GEJ682	M.RESISTOR CH 2W 6.8K	1	
R392,93		ERJ2GEJ223	M.RESISTOR CH 2W 22K	2	
R394		ERJ2GEJ153	M.RESISTOR CH 2W 15K	1	
R701		ERJ2GEJ222	M.RESISTOR CH 2W 2.2K	1	
R702		ERJ2GEJ473	M.RESISTOR CH 2W 47K	1	
R703		ERJ2GEJ823	M.RESISTOR CH 2W 82K	1	
R706,07		ERJ3GEYJ3R3	M.RESISTOR CH 1/16W 3.3	2	
R708		ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	
R711		ERJ3GEYJ153	M.RESISTOR CH 1/16W 15K	1	
R712		ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
R714		ERJ3GEYJ682	M.RESISTOR 1/16W 6.8K	1	
R716		ERJ2GEJ472	M.RESISTOR CH 2W 4.7K	1	
R717		ERJ3GEYJ221	M.RESISTOR CH 1/16W 220	1	
R718		ERJ2GEJ225	M.RESISTOR CH 2W 2.2M	1	
R719		ERJ2GE0R00	M.RESISTOR CH 2W 0	1	
R721		ERJ2GEJ222	M.RESISTOR CH 2W 2.2K	1	
R722		ERJ2GEJ472	M.RESISTOR CH 2W 4.7K	1	
R723		ERJ2GEJ154	M.RESISTOR CH 2W 150K	1	
R724		ERJ2GEJ102	M.RESISTOR CH 2W 1K	1	
R725		ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	
R726		ERJ3GEYG122	M.RESISTOR CH 1/16W 1.2K	1	
R727		ERJ2GEJ223	M.RESISTOR CH 2W 22K	1	
R728		ERJ2GEJ683	M.RESISTOR CH 2W 68K	1	
R729		ERJ2GEJ183	M.RESISTOR CH 2W 18K	1	
R730		ERJ2GEJ822	M.RESISTOR CH 2W 8.2K	1	
R731		ERJ2GEJ683	M.RESISTOR CH 2W 68K	1	
R732		ERJ2GEJ563	M.RESISTOR CH 2W 56K	1	
R733		ERJ2GEJ224	M.RESISTOR CH 2W 220K	1	
R734,35		ERJ2GEJ123	M.RESISTOR CH 2W 12K	2	
R736		ERJ2GEJ474	M.RESISTOR CH 2W 470K	1	
R737		ERJ2GEJ394	M.RESISTOR CH 2W 390K	1	
R739		ERJ2GEJ183	M.RESISTOR CH 2W 18K	1	
R740,41		ERJ2GEJ473	M.RESISTOR CH 2W 47K	2	
R742		ERJ2GEJ223	M.RESISTOR CH 2W 22K	1	
R743		ERJ2GEJ682	M.RESISTOR CH 2W 6.8K	1	
R744		ERJ2GEJ103	M.RESISTOR CH 2W 10K	1	
R745		ERJ2GEJ473	M.RESISTOR CH 2W 47K	1	
R746		ERJ2GEJ153	M.RESISTOR CH 2W 15K	1	
R747		ERJ2GEJ822	M.RESISTOR CH 2W 8.2K	1	
R748		ERJ2GEJ103	M.RESISTOR CH 2W 10K	1	
R749		ERJ3GEYG103	M.RESISTOR CH 1/16W 10K	1	
R750		ERJ3GEYG303	M.RESISTOR CH 1/16W 30K	1	
R751		ERJ2GEJ223	M.RESISTOR CH 2W 22K	1	
R752		ERJ3GEYJ181	M.RESISTOR CH 1/16W 180	1	
R753,54		ERJ2GEJ333	M.RESISTOR CH 2W 33K	2	
R755		ERJ2GEJ223	M.RESISTOR CH 2W 22K	1	
R756		ERJ2GEJ333	M.RESISTOR CH 2W 33K	1	
R759,60		ERJ2GEJ333	M.RESISTOR CH 2W 33K	2	
R762		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R765		ERJ2GEJ333	M.RESISTOR CH 2W 33K	1	
R766		ERJ2GEJ223	M.RESISTOR CH 2W 22K	1	
R767		ERJ2GEJ333	M.RESISTOR CH 2W 33K	1	
R768		ERJ2GEJ223	M.RESISTOR CH 2W 22K	1	
R790		ERJ2GEJ153	M.RESISTOR CH 2W 15K	1	
RA301-10		EXB24V102JX	RESISTOR-RESISTOR	10	
RA312		EXB24V473JX	RESISTOR-RESISTOR	1	
RA313,14		EXB24V102JX	RESISTOR-RESISTOR	2	
RA316,17		EXB24V102JX	RESISTOR-RESISTOR	2	
RA318,19		EXB24V473JX	RESISTOR-RESISTOR	2	
RA320		EXB24V102JX	RESISTOR-RESISTOR	1	
RA326-37		EXB24V102JX	RESISTOR-RESISTOR	12	
RA338		EXB24V473JX	RESISTOR-RESISTOR	1	
RA339-42		EXB24V102JX	RESISTOR-RESISTOR	4	
RA343		EXB24V473JX	RESISTOR-RESISTOR	1	
RA344		EXB24V102JX	RESISTOR-RESISTOR	1	
RA347		EXB24V102JX	RESISTOR-RESISTOR	1	
RA350-52		EXB24V102JX	RESISTOR-RESISTOR	3	
TH701		VRT0032K152	THERMISTOR	1	
X201		VSX0591	CRYSTAL OSCILLATOR	1	
X301		EF0S1605E5	CRYSTAL OSCILLATOR	1	
X302		EF0V8004B0A	CRYSTAL OSCILLATOR	1	
			MISCELLANEOUS		
		VSC3926	SHIELD COVER	1	
		VMZ2210	SHIELD BARRIER	1	
	■	VEP22133A	CCD FLEXIBLE CARD C.B.A.		(RTL)

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
B291		VJS2961C012	CONNECTOR (FEMALE) 12P		
C292		ECST1VX225ZR	T.CAPACITOR 35V 2.2U	1	
C295		ECUV1E104ZFN	C.CAPACITOR 25V 0.1U	1	
C254,55		ECUV1E473ZFN	C.CAPACITOR 25V 0.047U	2	
D292		MA153	DIODE	1	
Q291		2SC2295	TRANSISTOR	1	
R291		ERJ6GEYJ560V	M.RESISTOR CH 1/10W 56	1	
R292		ERJ6GEYJ472V	M.RESISTOR CH 1/10W 4.7U	1	
			MISCELLANEOUS		
		VJB22133	FLEXIBLE CARD	1	
	■	VEP23179B	AWT SENSOR C.B.A.		(RTL)
BP401		VJP3130	CONNECTOR	1	
C401		ECST0JY106Z	T.CAPACITOR 6.3V 10U	1	
C402		ECST0JY475Z	T.CAPACITOR 6.3V 4.7U	1	
D401		MA159	DIODE	1	
IC401		M52942AFP	IC	1	
L401		VLQ0464	COIL	1	
P301		VJS2252	CONNECTOR (FEMALE)	1	
R401,02		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	2	
			MISCELLANEOUS		
		VEE8697	WIRE CABLE	1	
	■	ESU39010	CAMERA OPERATION UNIT		(RTL)
B501		VJS2961A022	CONNECTOR (FEMALE) 22P	1	
C051		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
D051-56		LN1251CAL	DIODE	6	
D057		MA142WA	DIODE	1	
D058		MA142WK	DIODE	1	
D6501,02		MA128	DIODE	2	
D6503		MA142K	DIODE	1	
D6504		LN1251CAL	DIODE	1	
D6505		LN1351C	DIODE	1	
FP501		VJS3442D023	CONNECTOR (FEMALE) 23P	1	
FP503		VJS2958B010	CONNECTOR (FEMALE)	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
L051		ELJPC6R8KF	COIL	1	
QR051-53		XN4115	TRANSISTOR-RESISTOR	3	
R051-56		ERJ6GEYJ331	M.RESISTOR CH 1/10W 330	6	
R057		ERJ6GEYJ153	M.RESISTOR CH 1/10W 15K	1	
SW065		VSS0348	SWITCH	1	
	■	VEK6550	E.V.F. SENSOR FELX C.B.A.		(RTL)
D801		LN57A	DIODE	1	
D802		PN147-S	DIODE	1	
			MISCELLANEOUS		
		VGQ3279	SENSOR COVER	1	
		VEK6567	FLEXIBLE CARD	1	
	■	VEP28069A	B/W E.V.F. C.B.A.		(RTL)
C801		ECWU1C104JB5	W.CAPACITOR 16V 0.1U	1	
C802-04		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	3	
C805		ECST0JX226Z	T.CAPACITOR 6.3V 22U	1	
C806		ECUX1C123KBV	C.CAPACITOR CH 16V 0.012U	1	
C807		ECUM1C105JB	C.CAPACITOR CH 16V 1U	1	
C808		ECEV0JV1012P	E.CAPACITOR 6.3V 100P	1	
C809		ECEV1CA470F	E.CAPACITOR 16V 47U	1	
C810		ECUM2A272JUM	C.CAPACITOR 100V 2700P	1	
C811		ECST1AD476Z	T.CAPACITOR 10V 47U	1	
C812		ECUX1H180JCV	C.CAPACITOR CH 50V 18P	1	
C813		ECUM2H331KBM	C.CAPACITOR 500V 330P	1	
C814		ECEV1HA010	E.CAPACITOR 50V 1U	1	
C815		ECUM2H331KBM	C.CAPACITOR 500V 330P	1	
C816		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C817		ECST0JX226Z	T.CAPACITOR 6.3V 22U	1	
C818		ECUM2H331KBM	C.CAPACITOR 500V 330P	1	
C831		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
D802		SFPL-52	DIODE	1	
FP801		VJS2958B010	CONNECTOR (FEMALE) 10P	1	
FP805		VJS2959B006	CONNECTOR (FEMALE) 6P	1	
IC801		AN2515S.K	IC	1	
L801		ELJPA470KB	COIL	1	
L802		ELH8LE201R	COIL	1	
L804		ELJFA680JB	COIL	1	
P801		VJP3499D004	CONNECTOR (MALE) 4P	1	
P803		VJP3125D003	CONNECTOR (MALE) 3P	1	
P804		VJP1229T	CONNECTOR (MALE) 2P	1	
Q802		2SD968A-S	TRANSISTOR	1	
Q803,04		2SA1748	TRANSISTOR	2	
Q805		XN4604	TRANSISTOR	1	
R801		ERJ6ENF4422	M.RESISTOR	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R802		ERJ6GEYJ3R9	M.RESISTOR CH 1/10W 3.9	1	
R805		ERJ3GEYJ102	M.RESISTOR 1/16W 1K	1	
R808		ERJ3GEYJ242	M.RESISTOR CH 1/16W 2.4K	1	
R809		ERJ3GEYJ564	M.RESISTOR CH 1/16W 560K	1	
R810		ERJ6GMYF104	M.RESISTOR CH 1/10W 100K	1	
R815		ERJ3GEYJ102	M.RESISTOR 1/16W 1K	1	
R816,17		ERJ3GEYJ472	M.RESISTOR 1/16W 4.7K	2	
R818		ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
R819,20		ERJ6GEYJ275	M.RESISTOR CH 1/10W 2.7M	2	
R821		ERJ6GEYJ105	M.RESISTOR CH 1/10W 1M	1	
R823		ERJ3GEYJ8R2	M.RESISTOR CH 1/16W 8.2	1	
R829		ERJ6ENF4222	RESISTOR	1	
R834		ERJ3GEYJ122	M.RESISTOR CH 1/16W 1.2K	1	
R835		ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
R840		ERJ8GCYJ685	M.RESISTOR CH 1/8W 6.8M	1	
R841,42		ERJ6GEYJ475	M.RESISTOR CH 1/10W 4.7M	2	
R843		ERJ3GEYJ564	M.RESISTOR CH 1/16W 560K	1	
R844		ERJ3GEYJ470	M.RESISTOR CH 1/16W 47	1	
R845		ERJ3GEYJ471	M.RESISTOR 1/16W 470	1	
R850		ERJ3GEYJ392	M.RESISTOR CH 1/16W 3.9K	1	
R851		ERJ3GEYJ102	M.RESISTOR 1/16W 1K	1	
R852		ERJ3GEYJ681	M.RESISTOR CH 1/16W 680	1	
R853,54		ERJ3GEYJ3R9	M.RESISTOR CH 1/16W 3.9	2	
SW801		VSS0391	SWITCH	1	
T801		ETF08L27A	TRANSFORMER	1	
VR801		EVM7JSX30BE2	V.RESISTOR	1	
VR803		EVM7TSX00BV6	V.RESISTOR	1	
VR804		EVM7TSX00BE6	V.RESISTOR	1	
VR805		EVM7JSX30B14	V.RESISTOR 10K	1	
	■	VEK6621	MIC UNIT		(RTL)
C4301-03		ECUX1H102ZFV	C.CAPACITOR CH 50V 1000P	3	
C4304		ECUX1H222KBV	C.CAPACITOR CH 50V 2200P	1	
C4305-07		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	3	
C4308		ECEV05A470	E.CAPACITOR 4V 47U	1	
C4309,10		ECUM1C104KBN	C.CAPACITOR CH 16V 0.1U	2	
C4311,12		ECUM1E333KBN	C.CAPACITOR CH 25V 0.033U	2	
C4313-16		ECUX1C273KBV	C.CAPACITOR CH 16V 0.01U	4	
C4317,18		ECUM1H273KBN	C.CAPACITOR CH 50V 0.027U	2	
C4321,22		ECST1CY105Z	T.CAPACITOR 16V 1U	2	
C4323,24		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	2	
C4330		ECUX1H103KBV	C.CAPACITOR CH 50V 0.01U	1	
C4331		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C4332,33		ECUX1H102KBV	C.CAPACITOR CH 50V 1000P	2	
IC4301		UPC2356GS	IC	1	
J4301		VJJ0319	JACK	1	
P4301		VJP3172B004	CONNECTOR (MALE)	1	
R4301-03		ERJ6GEYJ222	M.RESISTOR CH 1/10W 2.2K	3	
R4304		ERJ3GEYJ272	M.RESISTOR CH 1/16W 2.7K	1	
R4305-08		ERJ3GEYJ472	M.RESISTOR 1/16W 4.7K	4	
R4309,10		ERJ3GEYJ563	M.RESISTOR CH 1/16W 56K	2	
R4315,16		ERJ3GEYJ183	M.RESISTOR CH 1/16W 18K	2	
R4319,20		ERJ3GEYJ153	M.RESISTOR CH 1/16W 15K	2	
R4321,22		ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	2	
R4323,24		ERJ3GEYJ334	M.RESISTOR CH 1/16W 330K	2	
R4327		ERJ3GEYJ564	M.RESISTOR CH 1/16W 560K	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
			MISCELLANEOUS		
		VSC3921	MIC SHIELD CASE (A)	1	
		VSC3922	MIC SHIELD CASE (B)	1	
	■	VEP03A55A	VTR MAIN C.B.A.		(RTL)
B3001		VJP2962A012	CONNECTOR (MALE) 12P	1	
B6001		VJP3126B028	CONNECTOR (MALE) 28P	1	
B6007		VJP3358C016	CONNECTOR (MALE) 16P	1	
C3002		ECEV05A470	E.CAPACITOR 4V 47U	1	
C3003,04		ECEV0GA471	E.CAPACITOR 4V 470U	2	
C3005		ECUX1H270JCV	C.CAPACITOR CH 50V 27P	1	
C3006		ECUX1H271JCV	C.CAPACITOR CH 50V 270P	1	
C3007		ECUX1H820JCV	C.CAPACITOR CH 50V 82P	1	
C3008		ECUX1H271JCV	C.CAPACITOR CH 50V 270P	1	
C3009		ECUX1H221JCV	C.CAPACITOR CH 50V 220P	1	
C3010		ECUX1H271JCV	C.CAPACITOR CH 50V 270P	1	
C3011,12		ECST1AY475Z	T.CAPACITOR 10V 4.7U	2	
C3013		ECST0JY106Z	T.CAPACITOR 6.3V 10U	1	
C3014		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C3015		ECUX1H560JCV	C.CAPACITOR CH 50V 56P	1	
C3016		ECUX1H471JCV	C.CAPACITOR CH 50V 470P	1	
C3017		ECUX1H560JCV	C.CAPACITOR CH 50V 56P	1	
C3018		ECUX1H103KBV	C.CAPACITOR CH 50V 0.01U	1	
C3019		ECUX1H120JCV	C.CAPACITOR CH 50V 12P	1	
C3021,22		ECUX1H220JCV	C.CAPACITOR CH 50V 22P	2	
C3023		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C3024		ECST0JY106Z	T.CAPACITOR 6.3V 10U	1	
C3025		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C3026		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C3028		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C3029		ECUX1H390JCV	C.CAPACITOR CH 50V 39P	1	
C3030		ECUX1H560JCV	C.CAPACITOR CH 50V 56P	1	
C3031		ECUX1H820JCV	C.CAPACITOR CH 50V 82P	1	
C3032		ECUX1H560JCV	C.CAPACITOR CH 50V 56P	1	
C3033		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C3036		ECUX1H330JCV	C.CAPACITOR CH 50V 33P	1	
C3037		ECUX1H390JCV	C.CAPACITOR CH 50V 39P	1	
C3041		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C3042		ECUX1H680JCV	C.CAPACITOR CH 50V 68P	1	
C3043		ECUX1H820JCV	C.CAPACITOR CH 50V 82P	1	
C3044		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C3045		ECUX1H680JCV	C.CAPACITOR CH 50V 68P	1	
C3046		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C3047		ECST0JY106Z	T.CAPACITOR 6.3V 10U	1	
C3048		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C3049		ECST1CY105Z	T.CAPACITOR 16V 1U	1	
C3050		ECUX1H222KBV	C.CAPACITOR CH 50V 2200P	1	
C3051		ECUX1H101JCV	C.CAPACITOR CH 50V 100P	1	
C3052		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C3054		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C3055		ECUX1H680JCV	C.CAPACITOR CH 50V 68P	1	
C3059		ECUX1H472KBV	C.CAPACITOR CH 50V 4700P	1	
C3060		ECEV1EA4R7	E.CAPACITOR 25V 4.7U	1	
C3061		ECUX1H180JCV	C.CAPACITOR CH 50V 18P	1	
C3062		ECUX1H390JCV	C.CAPACITOR CH 50V 39P	1	
C3063		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C3065		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C3071		ECUX1H330JCV	C.CAPACITOR CH 50V 33P	1	
C3072		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C3075		ECST0JY106Z	T.CAPACITOR 6.3V 10U	1	
C3081		ECUX1H220JCV	C.CAPACITOR CH 50V 22P	1	
C3083		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C3085		ECUX1H100CCV	C.CAPACITOR CH 50V 10P	1	
C3087		ECST0JY106Z	T.CAPACITOR 6.3V 10U	1	
C3208		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C3209		ECUX1H101JCV	C.CAPACITOR CH 50V 100P	1	
C3210		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C3211		ECUX1H180JCV	C.CAPACITOR CH 50V 18P	1	
C3214		ECUM1E393KBN	C.CAPACITOR CH 25V 0.039U	1	
C3215		ECST1AY475Z	T.CAPACITOR 10V 4.7U	1	
C3801		ECST0JY106Z	T.CAPACITOR 6.3V 10U	1	
C3805		ECUX1H060CCV	C.CAPACITOR CH 50V 6P	1	
C3809		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C3811		ECST1AY475Z	T.CAPACITOR 10V 4.7U	1	
C3815		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C3820		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C3821		ECUX1H330JCV	C.CAPACITOR CH 50V 33P	1	
C3822		ECUX1H150JCV	C.CAPACITOR CH 50V 15P	1	
C3824		ECEV0JA101	E.CAPACITOR 6.3V 100U	1	
C3825		ECST1AY475Z	T.CAPACITOR 10V 4.7U	1	
C3826		ECUX1H331JCV	C.CAPACITOR CH 50V 330P	1	
C3830		ECUM1H102JCN	C.CAPACITOR CH 50V 1000P	1	
C3831		ECUX1H331JCV	C.CAPACITOR CH 50V 330P	1	
C4003		ECST0JY106Z	T.CAPACITOR 6.3V 10U	1	
C4004		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C4006		ECUX1H562KBV	C.CAPACITOR CH 50V 5600P	1	
C4007		ECUX1H822KBV	C.CAPACITOR CH 50V 8200P	1	
C4009		ECST1CY225Z	T.CAPACITOR 16V 2.2U	1	
C4010		ECUX1H272KBV	C.CAPACITOR CH 50V 2700P	1	
C4011		ECUX1H122KBV	C.CAPACITOR CH 50V 1200P	1	
C4012		ECUX1H151JCV	C.CAPACITOR CH 50V 150P	1	
C4013		ECST1CY225Z	T.CAPACITOR 16V 2.2U	1	
C4014		ECUX1C153KBV	C.CAPACITOR CH 16V 0.015U	1	
C4015		ECEV05A470	E.CAPACITOR 4V 47U	1	
C4017,18		ECST1CY335Z	T.CAPACITOR 16V 3.3U	2	
C4019		ECST0JY106Z	T.CAPACITOR 6.3V 10U	1	
C4021		ECEV1HA010	E.CAPACITOR 50V 1U	1	
C4022		ECST0JX226Z	T.CAPACITOR 6.3V 22U	1	
C4023		ECUM1C223KBV	C.CAPACITOR CH 16V 0.022U	1	
C4024		ECUX1H682KBV	C.CAPACITOR CH 50V 6800P	1	
C4025		ECUM2A472JCM	C.CAPACITOR CH 4700P	1	
C4026		ECUX1H102KBV	C.CAPACITOR CH 50V 1000P	1	
C4035		ECUX1C123KBV	C.CAPACITOR CH 16V 0.012U	1	
C4036,37		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	2	
C4038		ECEV0GA470	E.CAPACITOR 4V 47U	1	
C4039		ECST0JY106Z	T.CAPACITOR 6.3V 10U	1	
C4046		ECST1CY225Z	T.CAPACITOR 16V 2.2U	1	
C4047,48		ECUX1H561JCV	C.CAPACITOR CH 50V 56P	2	
C4049		ECUX1H271JCV	C.CAPACITOR CH 50V 270P	1	
C4050		ECUX1H122KBV	C.CAPACITOR CH 50V 1200P	1	
C4053		ECUX1H392KBV	C.CAPACITOR CH 50V 3900P	1	
C4054		ECST0JY106Z	T.CAPACITOR 6.3V 10U	1	
C4057		ECUM1C104KBN	C.CAPACITOR CH 16V 0.1U	1	
C4501,02		ECEV05A470	E.CAPACITOR 4V 47U	2	
C4503,04		ECST0JY106Z	T.CAPACITOR 6.3V 10U	2	
C4507		ECUX1H102KBV	C.CAPACITOR CH 50V 1000P	1	
C4508		ECUX1H391JCV	C.CAPACITOR CH 50V 390P	1	
C4509		ECUX1H103KBV	C.CAPACITOR CH 50V 0.01U	1	
C4511		ECEV05A470	E.CAPACITOR 4V 47U	1	
C4512		ECUX1H390JCV	C.CAPACITOR CH 50V 39P	1	
C4513		ECST1CY335Z	T.CAPACITOR 16V 3.3U	1	
C4515		ECEV05A470	E.CAPACITOR 4V 47U	1	
C4516		ECST0JY106Z	T.CAPACITOR 6.3V 10U	1	
C4517		ECST0JX226Z	T.CAPACITOR 6.3V 22U	1	
C4518		ECEV05A470	E.CAPACITOR 4V 47U	1	
C4519,20		ECUX1H272KBV	C.CAPACITOR CH 50V 2700P	2	
C4521		ECEV05A470	E.CAPACITOR 4V 47U	1	
C4523		ECUX1H330JCV	C.CAPACITOR CH 50V 33P	1	
C4524		ECUX1H220JCV	C.CAPACITOR CH 50V 22P	1	
C4525		ECUX1H181JCV	C.CAPACITOR CH 50V 180P	1	
C4527,28		ECST0JY106Z	T.CAPACITOR 6.3V 10U	2	
C5001		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C5002,03		ECST0JY106Z	T.CAPACITOR 6.3V 10U	2	
C5004		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C5009		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C5010		ECST0JY106Z	T.CAPACITOR 6.3V 10U	1	
C5011		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C5012		ECST0JY106Z	T.CAPACITOR 6.3V 10U	1	
C5013		ECUM1H273KBN	C.CAPACITOR CH 50V 0.027U	1	
C5014		ECUX1H471JCV	C.CAPACITOR CH 50V 470P	1	
C5015		ECUM1H153KBN	C.CAPACITOR CH 50V 0.015U	1	
C5016		ECUM1E273KBN	C.CAPACITOR CH 25V 0.027U	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C5017-23		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	7	
C5024-29		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	6	
C5030		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C5031		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C5032,33		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	2	
C5034		ECST0JY106Z	T.CAPACITOR 6.3V 10U	1	
C5035		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C5036,37		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	2	
C5038,39		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	2	
C5040-42		ECUX1H471JCV	C.CAPACITOR CH 50V 470P	3	
C5043		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C5048		ECUM1C683KBN	C.CAPACITOR 50V 0.68U	1	
C5050		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C5051		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C5052		ECUX1H121JCV	C.CAPACITOR CH 50V 12P	1	
C5053		ECUX1H151JCV	C.CAPACITOR CH 50V 150P	1	
C5054		ECUX1H390JCV	C.CAPACITOR CH 50V 39P	1	
C5055,56		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	2	
C5057,58		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	2	
C5059,60		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	2	
C5061		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C5063		ECUM1C104KBN	C.CAPACITOR CH 16V 0.1U	1	
C5085		ECST0JY106Z	T.CAPACITOR 6.3V 10U	1	
C5086		ECUM1C104KBN	C.CAPACITOR CH 16V 0.1U	1	
C5100		ECUM1C104KBN	C.CAPACITOR CH 16V 0.1U	1	
C5101		ECUX1H152KBV	C.CAPACITOR CH 50V 1500P	1	
C6001,02		ECUX1H100CCV	C.CAPACITOR CH 50V 10P	2	
C6003,04		ECUX1H330JCV	C.CAPACITOR CH 50V 33P	2	
C6007		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C6008		ECUM1C104KBN	C.CAPACITOR CH 16V 0.1U	1	
C6009,10		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	2	
C6011		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C6012		ECUX1H221JCV	C.CAPACITOR CH 50V 220P	1	
C6013-15		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	3	
C6016		ECEV1CA220	E.CAPACITOR CH 10V 22U	1	
C6017		ECUM1E103ZFQ	C.CAPACITOR CH 25V 0.01U	1	
C6018		ECST1CY335Z	T.CAPACITOR 16V 3.3U	1	
C6020		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C6021		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C6022		ECUX1H221JCV	C.CAPACITOR CH 50V 220P	1	
C6023,24		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	2	
C6026		ECUX1H560JCV	C.CAPACITOR CH 50V 56P	1	
C6027		ECEV0JA101	E.CAPACITOR 6.3V 100U	1	
C6028		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C6031		ECUX1H272KBV	C.CAPACITOR CH 50V 2700P	1	
C6032		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C6040,41		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	2	
C6042		ECST0GY156Z	T.CAPACITOR 4V 15U	1	
C6043		ECEV0JA220	E.CAPACITOR 6.3V 22U	1	
C6044		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C6050		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C6051		ECUM1C225ZFM	C.CAPACITOR CH 16V 2.2U	1	
C6052		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C6101		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C6102		ECEV05A470	E.CAPACITOR 4V 47U	1	
C6105		ECUM1E103ZFQ	C.CAPACITOR CH 25V 0.01U	1	
C6106		ECUX1H223ZFV	C.CAPACITOR CH 50V 0.022U	1	
C6107		ECEV1CA100	E.CAPACITOR 16V 10U	1	
C6108		ECST0JY106Z	T.CAPACITOR 6.3V 10U	1	
C6109		ECUX1H561KBV	C.CAPACITOR CH 50V 560P	1	
C6110,11		ECUM1C105KBM	C.CAPACITOR CH 16V 1U	2	
C6112		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C6113		ECWU1C393JA5	C.CAPACITOR CH 16V 0.039U	1	
C6120		ECST1CY335Z	T.CAPACITOR 16V 3.3U	1	
C6181		ECEV1CA100	E.CAPACITOR 16V 10U	1	
C6182		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C6184		ECUM1C335ZFM	C.CAPACITOR CH 16V 3.3U	1	
C6185		ECUX1H101JCV	C.CAPACITOR CH 50V 100P	1	
C6201		ECUX1H330JCV	C.CAPACITOR CH 50V 33P	1	
C6202		ECRJA030E11	TRIMMER	1	
C6204		ECUX1H050CCV	C.CAPACITOR CH 50V 5P	1	
C6205		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C6206		ECEV0JA101	E.CAPACITOR 6.3V 100U	1	
C6207		ECUM1H070CCV	C.CAPACITOR CH 50V 7P	1	
C6208		ECUX1H330JCV	C.CAPACITOR CH 50V 33P	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C6210		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C6211		ECST1CY335Z	T.CAPACITOR 16V 3.3U	1	
C6212		ECUM1C474ZFN	C.CAPACITOR CH 16V 0.47U	1	
C6213		ECST0JX226Z	T.CAPACITOR 6.3V 22U	1	
C6218		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C8001		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C8002		ECUX1H060CCV	C.CAPACITOR CH 50V 6P	1	
C8003		ECUX1H100CCV	C.CAPACITOR CH 50V 10P	1	
C8004		ECST0JY106Z	T.CAPACITOR 6.3V 10U	1	
C8005		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C8006		ECUX1H271JCV	C.CAPACITOR CH 50V 270P	1	
C8007		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C8008		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C8009		ECUX1H102KBV	C.CAPACITOR CH 50V 1000P	1	
C8010		ECUX1H680JCV	C.CAPACITOR CH 50V 68P	1	
C8011,12		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	2	
C8015		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C8017		ECUM1C105ZFM	C.CAPACITOR CH 16V 1U	1	
C8018		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C8019		ECUX1H560JCV	C.CAPACITOR CH 50V 56P	1	
C8048		ECUX1H332KBV	C.CAPACITOR CH 50V 3300P	1	
C8049		ECST1AY475Z	T.CAPACITOR 10V 4.7U	1	
C8062		ECUX1H151JCV	C.CAPACITOR CH 50V 150P	1	
C8063		ECUX1H471JCV	C.CAPACITOR CH 50V 470P	1	
C8065		ECUM1C473KBV	C.CAPACITOR CH 16V 0.047U	1	
C8066		ECUX1H102KBV	C.CAPACITOR CH 50V 1000P	1	
C8067		ECUX1H471JCV	C.CAPACITOR CH 50V 470P	1	
C8071		ECUX1H182KBV	C.CAPACITOR CH 50V 1800P	1	
C8072		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C8074		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C8076		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C8077		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C8078		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C8101		ECUX1H472KBV	C.CAPACITOR CH 50V 4700P	1	
C8102		ECUX1H330JCV	C.CAPACITOR CH 50V 33P	1	
C8103		ECUX1H120JCV	C.CAPACITOR CH 50V 12P	1	
C8104		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C8105		ECUX1H680JCV	C.CAPACITOR CH 50V 68P	1	
C8107,08		ECUX1H101JCV	C.CAPACITOR CH 50V 100P	2	
D3001,02		MA729	IC	2	
D3003		MA132WK	DIODE	1	
D3004		MA729	IC	1	
D3202		MA132WK	DIODE	1	
D3203		MA132K	DIODE	1	
D3204		MA133	DIODE	1	
D3205		MA728	DIODE	1	
D3801		MA132K	DIODE	1	
D5001		MA159	DIODE	1	
D5002,03		MA132WA	DIODE	2	
D6001		MA133	DIODE	1	
D6003		MA132WK	DIODE	1	
D6005		MA3130	DIODE	1	
D6007		MA728	DIODE	1	
D6009		MA728	DIODE	1	
D6013		MA728	DIODE	1	
D6015		MA110	DIODE	1	
D6016		MA132WA	DIODE	1	
D6020-24		MA728	DIODE	5	
D6030		MA132WK	DIODE	1	
D6031		MA132WA	DIODE	1	
D6035		MA132K	DIODE	1	
D6040		MA728	DIODE	1	
D6201		MA132WA	DIODE	1	
D6202		MA132K	DIODE	1	
D6204		MA132K	DIODE	1	
D6206		MA729	IC	1	
D6207		MA728	DIODE	1	
D8001		MA132WK	DIODE	1	
FL3001		VLF1057	FILTER	1	
FL4501		VLF0934	FILTER	1	
FL4502		VLF0935	FILTER	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
FP3002		VJS2960A010	CONNECTOR (FEMALE) 10P	1	
FP3003		VJS3452C018	CONNECTOR (FEMALE) 18P	1	
FP4001		VJS2958D009	CONNECTOR (FEMALE) 9P	1	
FP5001		VJS2959B023	CONNECTOR (FEMALE) 23P	1	
FP6001		VJS2959B016	CONNECTOR (FEMALE) 16P	1	
FP6002		VJS2959B006	CONNECTOR (FEMALE) 6P	1	
FP6004		VJS3442D023	CONNECTOR (FEMALE) 23P	1	
FP6201		VJS2959D010	CONNECTOR (FEMALE) 10P	1	
FP6202		VJS3452C024	CONNECTOR (FEMALE) 24P	1	
IC3001		VEFH25D	IC	1	
IC3002		MN3851MS	IC	1	
IC3003		AN3298NSB	IC	1	
IC3005		BA7062F	IC	1	
IC3801		MN1870824M1A	IC	1	
IC3802		TC7W04F	IC	1	
IC3803		NJM2235MA	IC	1	
IC3804		TC7WU04F	IC	1	
IC3805		LM393DB	IC	1	
IC4001		AN3998FAP	IC	1	
IC4501		VEFH27B	IC	1	
IC5001		AN3352FHP	IC	1	
IC6001		MN6755240V8Q	IC	1	
IC6002		RH5RE38AA	IC	1	
IC6003		MN13821-Y	IC	1	
IC6004		BA6289F	IC	1	
IC6005		TC4S66F	IC	1	
IC6007		LM393DB	IC	1	
IC6008		UPD74HC00G	IC	1	
IC6013		TC4S66F	IC	1	
IC6015		TC4W53F	IC	1	
IC6016		UPD74HC32G	IC	1	
IC6181		LM358DB	IC	1	
IC6201		UPD17401G551	IC	1	
IC6202		S8420KF	IC	1	
IC6203		TC7W04F	IC	1	
IC8001		VEFH26B	IC	1	
IC8002		TL8841F	IC	1	
L3001		VLQ0319K101	COIL 100UH	1	
L3002		VLQ0319F150	COIL 15UH	1	
L3003		VLQ0426J560	COIL 56UH	1	
L3004		VLQ0319F150	COIL 15UH	1	
L3005		VLQ0163J121	COIL 120UH	1	
L3006		VLQ0426J3R9	COIL 3.9UH	1	
L3007		VLQ0426J150	COIL 15UH	1	
L3009		VLQ0319F150	COIL 15UH	1	
L3010		VLQ0426J470	COIL 47UH	1	
L3011		VLQ0426J150	COIL 15UH	1	
L3012		VLQ0426J100	COIL 10UH	1	
L3015		VLQ0426J680	COIL 68UH	1	
L3017		VLQ0426J680	COIL 68UH	1	
L3018		VLQ0319K680	COIL 68UH	1	
L3019		VLQ0319F150	COIL 15UH	1	
L3021		VLQ0426J330	COIL 33UH	1	
L3024		VLQ0319K101	COIL 100UH	1	
L3026		VLQ0319K101	COIL 100UH	1	
L3027		VLQ0426J100	COIL 10UH	1	
L3030		VLQ0426J330	COIL 33UH	1	
L3802		VLQ0319K101	COIL 100UH	1	
L4001		VLQ0423J153	COIL 15MH	1	
L4003		VLQ0319K470	COIL 47UH	1	
L4502		VLQ0319K221	COIL 220UH	1	
L4504		VLQ0426J560	COIL 56UH	1	
L5001-03		VLQ0319F150	COIL 15UH	3	
L5004		VLQ0319K101	COIL 100UH	1	
L5005		VLQ0401K120	COIL 12UH	1	
L5007		VLQ0319K101	COIL 100UH	1	
L5008		VLQ0319F150	COIL 15UH	1	
L5010		VLQ0319F150	COIL 15UH	1	
L6181		VLQ0319K560	COIL 56UH	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
L6201		ELJFA560KF	COIL 56UH	1	
L8001		VLQ0426J270	COIL 27UH	1	
L8002,03		VLQ0426J100	COIL 10UH	2	
L8004		VLQ0319F150	COIL 15UH	1	
L8006		VLQ0426J330	COIL 33UH	1	
L8007		VLQ0319F150	COIL 15UH	1	
L8012		VLQ0319K560	COIL 56UH	1	
L8014		ELJFA101KB	COIL 100UH	1	
L8015		VLQ0426J150	COIL 15UH	1	
L8016		VLQ0133K471	COIL 470UH	1	
L8018		VLQ0426J470	COIL 47UH	1	
P4001		VJP3172B004	CONNECTOR (MALE)	1	
Q01		UN9211	TRANSISTOR	1	
Q01,02		2SC4627	TRANSISTOR	2	
Q02		2SD2345	TRANSISTOR	1	
Q03		2SC4627	TRANSISTOR	1	
Q03		2SD2345	TRANSISTOR	1	
Q04		UN9211	TRANSISTOR	1	
Q04		2SC3938	TRANSISTOR	1	
Q05		UN9113	TRANSISTOR	1	
Q06		UN9110	TRANSISTOR	1	
Q07		2SC4627	TRANSISTOR	1	
Q3001		2SB970X	TRANSISTOR	1	
Q3002		2SD2216	TRANSISTOR	1	
Q3003		2SC4627	TRANSISTOR	1	
Q3004		2SD2216	TRANSISTOR	1	
Q3005		2SB1462	TRANSISTOR	1	
Q3006		2SD2216	TRANSISTOR	1	
Q3008-10		2SC4627	TRANSISTOR	3	
Q3011		2SB1462	TRANSISTOR	1	
Q3012		2SD2216	TRANSISTOR	1	
Q3014		2SB1462	TRANSISTOR	1	
Q3021		2SB1462	TRANSISTOR	1	
Q3204		XP4601	TRANSISTOR-RESISTOR	1	
Q3805		2SD2216	TRANSISTOR	1	
Q4001		2SD2216	TRANSISTOR	1	
Q4002		2SB1462	TRANSISTOR	1	
Q4003		XP6501	TRANSISTOR-RESISTOR	1	
Q4004		2SD2216	TRANSISTOR	1	
Q4005		2SB1219	TRANSISTOR	1	
Q4006		2SD602-R	TRANSISTOR	1	
Q4010		2SD2216	TRANSISTOR	1	
Q4011		2SB1462	TRANSISTOR	1	
Q4012		XP6401	TRANSISTOR-RESISTOR	1	
Q4013		XP1401	TRANSISTOR-RESISTOR	1	
Q4014		XP4601	TRANSISTOR-RESISTOR	1	
Q4017		2SD2216	TRANSISTOR	1	
Q4018		XP4601	TRANSISTOR-RESISTOR	1	
Q4019		2SD2216	TRANSISTOR	1	
Q4020		2SD2216	TRANSISTOR	1	
Q4501,02		2SD1979	TRANSISTOR	2	
Q4552		2SD2216	TRANSISTOR	1	
Q5001,02		XN4506	TRANSISTOR-TRANSISTOR	2	
Q5003		2SB970X	TRANSISTOR	1	
Q5004,05		2SA812	TRANSISTOR	2	
Q5006,07		XN1501	TRANSISTOR-TRANSISTOR	2	
Q5010		2SB970X	TRANSISTOR	1	
Q6001,02		2SD2216	TRANSISTOR	2	
Q6101		2SB1462	TRANSISTOR	1	
Q6105		2SD2216	TRANSISTOR	1	
Q6181		2SB970X	TRANSISTOR	1	
Q6204		2SK198	TRANSISTOR	1	
Q6205		XN1501	TRANSISTOR-TRANSISTOR	1	
Q6208		2SB1462	TRANSISTOR	1	
Q6209		2SD1819	TRANSISTOR	1	
Q8001,02		2SC4627	TRANSISTOR	2	
Q8003		2SB1462	TRANSISTOR	1	
Q8004,05		2SD2216	TRANSISTOR	2	
Q8006		2SC4627	TRANSISTOR	1	
Q8009		2SD2216	TRANSISTOR	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
QR3001		UN9212	TRANSISTOR-RESISTOR	1	
QR3002		UN9213	TRANSISTOR-RESISTOR	1	
QR3004		UN9211	TRANSISTOR-RESISTOR	1	
QR3005		UN9213	TRANSISTOR-RESISTOR	1	
QR3008-10		UN9212	TRANSISTOR-RESISTOR	3	
QR3013-16		UN9212	TRANSISTOR-RESISTOR	4	
QR3019		UN9212	TRANSISTOR-RESISTOR	1	
QR3204,05		UN9212	TRANSISTOR-RESISTOR	2	
QR3801		UN9212	TRANSISTOR-RESISTOR	1	
QR4001		UN9113	TRANSISTOR-RESISTOR	1	
QR4004		UN9217	TRANSISTOR-RESISTOR	1	
QR4005		UN9112	TRANSISTOR-RESISTOR	1	
QR4006		UN9210	TRANSISTOR-RESISTOR	1	
QR4007		UN9111	TRANSISTOR-RESISTOR	1	
QR4008		UN9213	TRANSISTOR-RESISTOR	1	
QR4502		UN9112	TRANSISTOR-RESISTOR	1	
QR4503		UN9213	TRANSISTOR-RESISTOR	1	
QR4551		XP1213	TRANSISTOR-RESISTOR	1	
QR4552		UN9213	TRANSISTOR-RESISTOR	1	
QR5001,02		XP1213	TRANSISTOR-RESISTOR	2	
QR6001		UN9112	TRANSISTOR-RESISTOR	1	
QR6002		XN4130X	TRANSISTOR-RESISTOR	1	
QR6003,04		UN9213	TRANSISTOR-RESISTOR	2	
QR6005		UN9210	TRANSISTOR-RESISTOR	1	
QR6010		XP4115	TRANSISTOR-RESISTOR	1	
QR6013		UN9213	TRANSISTOR-RESISTOR	1	
QR6014		UN9212	TRANSISTOR-RESISTOR	1	
QR6015		UN2130X	TRANSISTOR-RESISTOR	1	
QR6019		UN9215	TRANSISTOR-RESISTOR	1	
QR6023		UN9212	TRANSISTOR-RESISTOR	1	
QR6024,25		XP4501	TRANSISTOR-RESISTOR	2	
QR6026		XP6501	TRANSISTOR-RESISTOR	1	
QR6027		XP1213	TRANSISTOR-RESISTOR	1	
QR6028		UN2130X	TRANSISTOR-RESISTOR	1	
QR6029		UN5213	TRANSISTOR	1	
QR6101		UN9215	TRANSISTOR-RESISTOR	1	
QR6105		UN9113	TRANSISTOR-RESISTOR	1	
QR6181		XP4312	TRANSISTOR-RESISTOR	1	
QR6202		UN5212	TRANSISTOR-RESISTOR	1	
QR8101		UN9212	TRANSISTOR-RESISTOR	1	
QR8103		UN9213	TRANSISTOR-RESISTOR	1	
R3001		ERJ2GEJ222	M.RESISTOR CH 2W 2.2K	1	
R3002		ERJ2GEJ152	M.RESISTOR CH 2W 1.5K	1	
R3003,04		ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	2	
R3005		ERJ3GEYG471	M.RESISTOR CH 1/16W 470	1	
R3006		ERJ3GEYG332	M.RESISTOR CH 1/16W 3.3K	1	
R3007		ERJ3GEYG152	M.RESISTOR CH 1/16W 1.5K	1	
R3008		ERJ3GEYG332	M.RESISTOR CH 1/16W 3.3K	1	
R3010		ERJ2GEJ152	M.RESISTOR CH 2W 1.5K	1	
R3011		ERJ2GEJ682	M.RESISTOR CH 2W 6.8K	1	
R3012		ERJ2GEJ222	M.RESISTOR CH 2W 2.2K	1	
R3013		ERJ2GEJ392	M.RESISTOR CH 2W 3.9K	1	
R3014,15		ERJ2GEJ102	M.RESISTOR CH 2W 1K	2	
R3016		ERJ2GEJ564	M.RESISTOR CH 2W 560K	1	
R3017		ERJ3GEYJ331	M.RESISTOR CH 1/16W 330	1	
R3018		ERJ3GEYJ122	M.RESISTOR CH 1/16W 1.2K	1	
R3021		ERJ2GEJ102	M.RESISTOR CH 2W 1K	1	
R3022		ERJ2GEJ182	M.RESISTOR CH 2W 1.8K	1	
R3023		ERJ2GEJ472	M.RESISTOR CH 2W 4.7K	1	
R3024		ERJ2GEJ821	M.RESISTOR CH 2W 820	1	
R3025		ERJ2GEJ102	M.RESISTOR CH 2W 1K	1	
R3026		ERJ2GEJ272	M.RESISTOR CH 2W 2.7K	1	
R3028		ERJ3GEYJ681	M.RESISTOR CH 1/16W 680	1	
R3030		ERJ2GE0R00	M.RESISTOR CH 2W 0	1	
R3031		ERJ3GEYJ221	M.RESISTOR CH 1/16W 220	1	
R3033		ERJ2GEJ561	M.RESISTOR CH 2W 560	1	
R3042		ERJ3GEYJ561	M.RESISTOR CH 1/16W 560	1	
R3043		ERJ2GEJ562	M.RESISTOR CH 2W 5.6K	1	
R3044		ERJ2GEJ104	M.RESISTOR CH 2W 100K	1	
R3045		ERJ3GEYJ472	M.RESISTOR 1/16W 4.7K	1	
R3046		ERJ2GEJ102	M.RESISTOR CH 2W 1K	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R3048		ERJ2GEJ222	M.RESISTOR CH 2W 2.2K	1	
R3049		ERJ3GEYJ152	M.RESISTOR 1/16W 1.5K	1	
R3051		ERJ2GEJ393	M.RESISTOR CH 2W 39K	1	
R3052		ERJ2GEJ474	M.RESISTOR CH 2W 470K	1	
R3053		ERJ3GEYG134	M.RESISTOR 1/16W 130K	1	
R3054		ERJ2GEJ102	M.RESISTOR CH 2W 1K	1	
R3055		ERJ2GEJ222	M.RESISTOR CH 2W 2.2K	1	
R3058		ERJ3GEYJ102	M.RESISTOR 1/16W 1K	1	
R3059		ERJ3GEYJ471	M.RESISTOR 1/16W 470	1	
R3060-62		ERJ3GEYJ680	M.RESISTOR CH 1/16W 68	3	
R3063		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R3064		ERJ2GEJ152	M.RESISTOR CH 2W 1.5K	1	
R3065		ERJ2GEJ104	M.RESISTOR CH 2W 100K	1	
R3066		ERJ2GEJ473	M.RESISTOR CH 2W 47K	1	
R3068,69		ERJ2GEJ103	M.RESISTOR CH 2W 10K	2	
R3070		ERJ3GEYJ561	M.RESISTOR CH 1/16W 560	1	
R3071		ERJ2GEJ103	M.RESISTOR CH 2W 10K	1	
R3072		ERJ3GEYJ561	M.RESISTOR CH 1/16W 560	1	
R3073		ERJ3GEYJ681	M.RESISTOR CH 1/16W 680	1	
R3074,75		ERJ2GEJ102	M.RESISTOR CH 2W 1K	2	
R3076		ERJ3GEYJ471	M.RESISTOR 1/16W 470	1	
R3077		ERJ3GEYJ681	M.RESISTOR CH 1/16W 680	1	
R3079		ERJ2GE0R00	M.RESISTOR CH 2W 0	1	
R3080		ERJ2GEJ152	M.RESISTOR CH 2W 1.5K	1	
R3081		ERJ2GEJ682	M.RESISTOR CH 2W 6.8K	1	
R3089		ERJ3GEYJ682	M.RESISTOR 1/16W 6.8K	1	
R3090		ERJ2GEJ103	M.RESISTOR CH 2W 10K	1	
R3091		ERJ2GEJ561	M.RESISTOR CH 2W 560	1	
R3092		ERJ2GEJ821	M.RESISTOR CH 2W 820	1	
R3097		ERJ2GEJ224	M.RESISTOR CH 2W 220K	1	
R3098		ERJ2GEJ105	M.RESISTOR CH 2W 1M	1	
R3102		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R3103		ERJ3GEYJ153	M.RESISTOR CH 1/16W 15K	1	
R3104		ERJ2GEJ103	M.RESISTOR CH 2W 10K	1	
R3107		ERJ2GEJ683	M.RESISTOR CH 2W 68K	1	
R3111		ERJ2GE0R00	M.RESISTOR CH 2W 0	1	
R3113		ERJ3GEYJ102	M.RESISTOR 1/16W 1K	1	
R3131		ERJ2GEJ102	M.RESISTOR CH 2W 1K	1	
R3201		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R3213		ERJ2GEJ334	M.RESISTOR CH 2W 330K	1	
R3214		ERJ2GEJ103	M.RESISTOR CH 2W 10K	1	
R3215		ERJ2GEJ332	M.RESISTOR CH 2W 3.3K	1	
R3225		ERJ2GEJ152	M.RESISTOR CH 2W 1.5K	1	
R3234		ERJ2GEJ102	M.RESISTOR CH 2W 1K	1	
R3236		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
R3237,38		ERJ2GEJ102	M.RESISTOR CH 2W 1K	2	
R3240-42		ERJ2GEJ102	M.RESISTOR CH 2W 1K	3	
R3243		ERJ2GEJ152	M.RESISTOR CH 2W 1.5K	1	
R3244		ERJ2GEJ103	M.RESISTOR CH 2W 10K	1	
R3245		ERJ2GEJ822	M.RESISTOR CH 2W 8.2K	1	
R3246		ERJ3GEYJ102	M.RESISTOR 1/16W 1K	1	
R3601		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
R3802		VRE0067G222	RESISTOR	1	
R3804		ERJ2GEJ105	M.RESISTOR CH 2W 1M	1	
R3805		VRE0067G182	M.RESISTOR	1	
R3806		ERJ2GEJ392	M.RESISTOR CH 2W 3.9K	1	
R3807		ERJ2GEJ103	M.RESISTOR CH 2W 10K	1	
R3810		ERJ2GEJ682	M.RESISTOR CH 2W 6.8K	1	
R3811		ERJ2GEJ472	M.RESISTOR CH 2W 4.7K	1	
R3812		ERJ2GEJ103	M.RESISTOR CH 2W 10K	1	
R3813		ERJ2GEJ105	M.RESISTOR CH 2W 1M	1	
R3814		VRE0082A103T	RESISTOR	1	
R3815		ERJ2GEJ105	M.RESISTOR CH 2W 1M	1	
R3816		ERJ2GEJ681	M.RESISTOR CH 2W 680	1	
R3818		ERJ2GEJ331	M.RESISTOR CH 2W 330	1	
R3819		ERJ2GEJ103	M.RESISTOR CH 2W 10K	1	
R3825		VRE0082A473T	RESISTOR	1	
R3826,27		VRE0071E104	RESISTOR	2	
R3829		ERJ2GEJ473	M.RESISTOR CH 2W 47K	1	
R4001		ERJ3GEYJ684	M.RESISTOR CH 1/16W 680K	1	
R4002		ERJ2GEJ683	M.RESISTOR CH 2W 68K	1	
R4003		ERJ2GEJ394	M.RESISTOR CH 2W 390K	1	
R4004		ERJ2GEJ102	M.RESISTOR CH 2W 1K	1	
R4005		VRE0071E152	RESISTOR	1	
R4007		ERJ2GEJ223	M.RESISTOR CH 2W 22K	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R4008		ERJ2GEJ102	M.RESISTOR CH 2W 1K	1	
R4009		ERJ3GEYJ682	M.RESISTOR 1/16W 6.8K	1	
R4010		ERJ2GEJ333	M.RESISTOR CH 2W 33K	1	
R4011		ERJ2GEJ394	M.RESISTOR CH 2W 390K	1	
R4012		ERJ3GEYJ100	M.RESISTOR CH 1/16W 10	1	
R4013		ERJ3GEYJ561	M.RESISTOR CH 1/16W 560	1	
R4014		ERJ3GEYJ393	M.RESISTOR CH 1/16W 39K	1	
R4015		ERJ3GEYJ100	M.RESISTOR CH 1/16W 10	1	
R4016,17		ERJ2GEJ472	M.RESISTOR CH 2W 4.7K	2	
R4019		ERJ2GEJ153	M.RESISTOR CH 2W 15K	1	
R4020		VRE0071E471	RESISTOR	1	
R4021		ERJ3GEYJ334	M.RESISTOR CH 1/16W 330K	1	
R4022		VRE0071E562	M.RESISTOR	1	
R4023		ERJ3GEYJ392	M.RESISTOR CH 1/16W 3.9K	1	
R4024		VRE0071E182	RESISTOR	1	
R4027		ERJ2GEJ223	M.RESISTOR CH 2W 22K	1	
R4028		ERJ2GEJ222	M.RESISTOR CH 2W 2.2K	1	
R4029		ERJ2GEJ102	M.RESISTOR CH 2W 1K	1	
R4030		ERJ2GEJ472	M.RESISTOR CH 2W 4.7K	1	
R4031		ERJ3GEYJ680	M.RESISTOR CH 1/16W 68	1	
R4034		ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	
R4035		ERJ3GEYJ472	M.RESISTOR 1/16W 4.7K	1	
R4036		ERJ3GEYJ100	M.RESISTOR CH 1/16W 10	1	
R4037,38		ERJ3GEYJ123	M.RESISTOR CH 1/16W 12K	2	
R4039		ERJ3GEYJ122	M.RESISTOR CH 1/16W 1.2K	1	
R4041,42		ERJ3GEYJ123	M.RESISTOR CH 1/16W 12K	2	
R4043		ERJ2GEJ183	M.RESISTOR CH 2W 18K	1	
R4044		ERJ2GEJ822	M.RESISTOR CH 2W 8.2K	1	
R4045		ERJ2GEJ183	M.RESISTOR CH 2W 18K	1	
R4046		ERJ2GEJ472	M.RESISTOR CH 2W 4.7K	1	
R4047		ERJ2GEJ392	M.RESISTOR CH 2W 3.9K	1	
R4048		ERJ2GEJ183	M.RESISTOR CH 2W 18K	1	
R4049,50		ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	2	
R4051		ERJ3GEYJ181	M.RESISTOR CH 1/16W 180	1	
R4052,53		ERJ2GEJ103	M.RESISTOR CH 2W 10K	2	
R4055		ERJ2GEJ683	M.RESISTOR CH 2W 68K	1	
R4056		ERJ2GEJ473	M.RESISTOR CH 2W 47K	1	
R4057,58		ERJ3GEYJ471	M.RESISTOR 1/16W 470	2	
R4060		ERJ2GEJ223	M.RESISTOR CH 2W 22K	1	
R4061		ERJ2GEJ332	M.RESISTOR CH 2W 3.3K	1	
R4062		ERJ2GEJ154	M.RESISTOR CH 2W 150K	1	
R4501,02		ERJ2GEJ102	M.RESISTOR CH 2W 1K	2	
R4503		ERJ3GEYJ102	M.RESISTOR 1/16W 1K	1	
R4504		ERJ2GEJ681	M.RESISTOR CH 2W 680	1	
R4506		ERJ2GEJ681	M.RESISTOR CH 2W 680	1	
R4507		ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R4513		ERJ2GEJ333	M.RESISTOR CH 2W 33K	1	
R4515		ERJ2GEJ102	M.RESISTOR CH 2W 1K	1	
R4517,18		ERJ2GEJ102	M.RESISTOR CH 2W 1K	2	
R4522,23		ERJ2GEJ222	M.RESISTOR CH 2W 2.2K	2	
R4524,25		ERJ6GEYJ121	M.RESISTOR CH 1/10W 120	2	
R4551		ERJ2GEJ154	M.RESISTOR CH 2W 150K	1	
R5001		ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R5002		ERJ3GEYJ682	M.RESISTOR 1/16W 6.8K	1	
R5003		ERJ3GEYJ102	M.RESISTOR 1/16W 1K	1	
R5005		ERJ3GEYJ221	M.RESISTOR CH 1/16W 220	1	
R5006-08		ERJ3GEYJ821	M.RESISTOR CH 1/16W 820	3	
R5011		ERJ3GEYJ821	M.RESISTOR CH 1/16W 820	1	
R5012,13		ERJ3GEYJ472	M.RESISTOR 1/16W 4.7K	2	
R5014		ERJ3GEYJ221	M.RESISTOR CH 1/16W 220	1	
R5015,16		ERJ3GEYJ391	M.RESISTOR CH 1/16W 390	2	
R5024		ERJ3GEYJ4R7	M.RESISTOR CH 1/16W 4.7	1	
R5025		ERJ3GEYJ391	M.RESISTOR CH 1/16W 390	1	
R5026		ERJ3GEYJ181	M.RESISTOR CH 1/16W 180	1	
R5027		ERJ3GEYJ822	M.RESISTOR 1/16W 8.2K	1	
R5028		ERJ3GEYJ183	M.RESISTOR CH 1/16W 18K	1	
R5029,30		ERJ3GEYJ100	M.RESISTOR CH 1/16W 10	2	
R5031,32		ERJ2GE0R00	M.RESISTOR CH 2W 0	2	
R5033		ERJ3GEYJ155	M.RESISTOR CH 1/16W 1.5M	1	
R5054,55		ERJ3GEYJ472	M.RESISTOR 1/16W 4.7K	2	
R5056		ERJ2GEJ472	M.RESISTOR CH 2W 4.7K	1	
R5070		ERJ2GEJ102	M.RESISTOR CH 2W 1K	1	
R5071		ERJ2GEJ332	M.RESISTOR CH 2W 3.3K	1	
R5072		ERJ2GE0R00	M.RESISTOR CH 2W 0	1	
R5100		ERJ3GEYJ274	M.RESISTOR CH 1/16W 270K	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R6001-09		ERJ2GEJ473	M.RESISTOR CH 2W 47K	9	
R6010		ERJ8GEYJ2R2	M.RESISTOR 1/8W 2.2	1	
R6011		ERJ2GEJ473	M.RESISTOR CH 2W 47K	1	
R6012-14		ERJ2GEJ102	M.RESISTOR CH 2W 1K	3	
R6015		ERJ2GEJ104	M.RESISTOR CH 2W 100K	1	
R6016-20		ERJ2GEJ102	M.RESISTOR CH 2W 1K	5	
R6021		ERJ2GEJ101	M.RESISTOR CH 2W 1K	1	
R6022-28		ERJ2GEJ102	M.RESISTOR CH 2W 1K	7	
R6029		ERJ2GEJ563	M.RESISTOR CH 2W 56K	1	
R6030		ERJ2GEJ333	M.RESISTOR CH 2W 33K	1	
R6031		ERJ2GEJ473	M.RESISTOR CH 2W 47K	1	
R6032		ERJ2GEJ682	M.RESISTOR CH 2W 6.8K	1	
R6034		ERJ2GEJ473	M.RESISTOR CH 2W 47K	1	
R6035		VRE0067G333	RESISTOR	1	
R6036		VRE0067G223	RESISTOR	1	
R6037		ERJ2GEJ102	M.RESISTOR CH 2W 1K	1	
R6038		ERJ2GEJ223	M.RESISTOR CH 2W 22K	1	
R6039		ERJ8GEYJ120	M.RESISTOR 1/8W 12	1	
R6040		ERJ2GEJ272	M.RESISTOR CH 2W 2.7K	1	
R6041		ERJ2GEJ472	M.RESISTOR CH 2W 4.7K	1	
R6042		ERJ6GEYJ221	M.RESISTOR CH 1/10W 220	1	
R6043		ERJ2GEJ392	M.RESISTOR CH 2W 3.9K	1	
R6044		ERJ2GEJ152	M.RESISTOR CH 2W 1.5K	1	
R6045		ERJ2GE0R00	M.RESISTOR CH 2W 0	1	
R6046		ERJ2GEJ683	M.RESISTOR CH 2W 68K	1	
R6047		ERJ2GEJ274	M.RESISTOR CH 2W 270K	1	
R6048		ERJ2GEJ392	M.RESISTOR CH 2W 3.9K	1	
R6049		ERJ2GEJ103	M.RESISTOR CH 2W 10K	1	
R6050		ERJ2GEJ472	M.RESISTOR CH 2W 4.7K	1	
R6051		ERJ2GEJ393	M.RESISTOR CH 2W 39K	1	
R6052,53		ERJ2GEJ103	M.RESISTOR CH 2W 10K	2	
R6055		ERJ8GEYJ821	M.RESISTOR CH 1/8W 820	1	
R6057		ERJ2GEJ683	M.RESISTOR CH 2W 68K	1	
R6058		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
R6059		ERJ2GEJ473	M.RESISTOR CH 2W 47K	1	
R6061		ERJ2GEJ102	M.RESISTOR CH 2W 1K	1	
R6063		ERJ2GEJ392	M.RESISTOR CH 2W 3.9K	1	
R6070		ERJ6GEYJ221	M.RESISTOR CH 1/10W 220	1	
R6072-74		ERJ2GEJ102	M.RESISTOR CH 2W 1K	3	
R6075		ERJ2GEJ101	M.RESISTOR CH 2W 1K	1	
R6076		ERJ2GEJ224	M.RESISTOR CH 2W 220K	1	
R6077		ERJ2GEJ223	M.RESISTOR CH 2W 22K	1	
R6079		ERJ2GEJ472	M.RESISTOR CH 2W 4.7K	1	
R6080		ERJ2GEJ103	M.RESISTOR CH 2W 10K	1	
R6081		ERJ2GEJ105	M.RESISTOR CH 2W 1M	1	
R6082		ERJ2GEJ103	M.RESISTOR CH 2W 10K	1	
R6083-85		ERJ2GEJ473	M.RESISTOR CH 2W 47K	3	
R6087		ERJ2GEJ473	M.RESISTOR CH 2W 47K	1	
R6090		ERJ2GEJ393	M.RESISTOR CH 2W 39K	1	
R6091		ERJ2GE0R00	M.RESISTOR CH 2W 0	1	
R6092		ERJ2GEJ393	M.RESISTOR CH 2W 39K	1	
R6093		ERJ2GEJ822	M.RESISTOR CH 2W 8.2K	1	
R6094,95		ERJ2GEJ102	M.RESISTOR CH 2W 1K	2	
R6096		ERJ2GEJ392	M.RESISTOR CH 2W 3.9K	1	
R6097		ERJ2GEJ683	M.RESISTOR CH 2W 68K	1	
R6100		ERJ2GEJ124	M.RESISTOR CH 2W 120K	1	
R6101		ERJ2GEJ334	M.RESISTOR CH 2W 330K	1	
R6102		ERJ2GEJ474	M.RESISTOR CH 2W 470K	1	
R6105		ERJ2GEJ222	M.RESISTOR CH 2W 2.2K	1	
R6106		ERJ2GEJ103	M.RESISTOR CH 2W 10K	1	
R6109		ERJ2GEJ222	M.RESISTOR CH 2W 2.2K	1	
R6110		ERJ2GEJ103	M.RESISTOR CH 2W 10K	1	
R6111,12		ERJ2GEJ473	M.RESISTOR CH 2W 47K	2	
R6114		ERJ2GEJ222	M.RESISTOR CH 2W 2.2K	1	
R6115		ERJ2GEJ103	M.RESISTOR CH 2W 10K	1	
R6116		ERJ2GEJ473	M.RESISTOR CH 2W 47K	1	
R6117		ERJ2GEJ222	M.RESISTOR CH 2W 2.2K	1	
R6118		ERJ2GEJ473	M.RESISTOR CH 2W 47K	1	
R6120		ERJ2GEJ681	M.RESISTOR CH 2W 680	1	
R6121		ERJ3GEYJ155	M.RESISTOR CH 1/16W 1.5M	1	
R6122		ERJ2GEJ104	M.RESISTOR CH 2W 100K	1	
R6123		ERJ2GEJ222	M.RESISTOR CH 2W 2.2K	1	
R6124		ERJ2GEJ103	M.RESISTOR CH 2W 10K	1	
R6125		ERJ2GEJ222	M.RESISTOR CH 2W 2.2K	1	
R6126		ERJ3GEYJ181	M.RESISTOR CH 1/16W 180	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R6127		ERJ2GEJ222	M.RESISTOR CH 2W 2.2K	1	
R6128		ERJ2GEJ153	M.RESISTOR CH 2W 15K	1	
R6129		ERJ2GEJ473	M.RESISTOR CH 2W 47K	1	
R6130-32		ERJ2GEJ104	M.RESISTOR CH 2W 100K	3	
R6133		ERJ8GEYJ2R2	M.RESISTOR 1/8W 2.2	1	
R6134		ERJ2GEJ224	M.RESISTOR CH 2W 220K	1	
R6135		ERJ2GEJ222	M.RESISTOR CH 2W 2.2K	1	
R6136		ERJ2GEJ473	M.RESISTOR CH 2W 47K	1	
R6137		ERJ2GEJ102	M.RESISTOR CH 2W 1K	1	
R6138		ERJ2GEJ473	M.RESISTOR CH 2W 47K	1	
R6140		ERJ2GEJ821	M.RESISTOR CH 2W 820	1	
R6141		ERJ2GEJ103	M.RESISTOR CH 2W 10K	1	
R6142		ERJ2GEJ683	M.RESISTOR CH 2W 68K	1	
R6143-45		ERJ2GEJ103	M.RESISTOR CH 2W 10K	3	
R6146		ERJ2GE0R00	M.RESISTOR CH 2W 0	1	
R6147		ERJ2GEJ222	M.RESISTOR CH 2W 2.2K	1	
R6148		ERJ2GEJ102	M.RESISTOR CH 2W 1K	1	
R6151		ERJ2GEJ562	M.RESISTOR CH 2W 5.6K	1	
R6160,61		ERJ2GEJ102	M.RESISTOR CH 2W 1K	2	
R6162		ERJ2GEJ681	M.RESISTOR CH 2W 680	1	
R6163		ERJ2GEJ274	M.RESISTOR CH 2W 270K	1	
R6164		ERJ2GEJ154	M.RESISTOR CH 2W 150K	1	
R6181		ERJ2GEJ681	M.RESISTOR CH 2W 680	1	
R6182		ERJ2GEJ123	M.RESISTOR CH 2W 12K	1	
R6183		ERJ8GEY0R00	M.RESISTOR CH 1/8W 0	1	
R6184		ERJ2GEJ182	M.RESISTOR CH 2W 1.8K	1	
R6186		ERJ2GEJ104	M.RESISTOR CH 2W 100K	1	
R6187		ERJ2GEJ123	M.RESISTOR CH 2W 12K	1	
R6188		ERJ2GEJ562	M.RESISTOR CH 2W 5.6K	1	
R6189,90		ERJ2GEJ103	M.RESISTOR CH 2W 10K	2	
R6204		ERJ2GEJ222	M.RESISTOR CH 2W 2.2K	1	
R6205-08		ERJ2GEJ104	M.RESISTOR CH 2W 100K	4	
R6209-12		ERJ2GEJ101	M.RESISTOR CH 2W 1K	4	
R6213,14		ERJ2GEJ182	M.RESISTOR CH 2W 1.8K	2	
R6215		ERJ2GEJ473	M.RESISTOR CH 2W 47K	1	
R6217		ERJ2GEJ104	M.RESISTOR CH 2W 100K	1	
R6219,20		ERJ2GEJ101	M.RESISTOR CH 2W 1K	2	
R6221		ERJ2GEJ105	M.RESISTOR CH 2W 1M	1	
R6222		ERJ2GEJ473	M.RESISTOR CH 2W 47K	1	
R6223		ERJ2GEJ472	M.RESISTOR CH 2W 4.7K	1	
R6224		ERJ2GEJ104	M.RESISTOR CH 2W 100K	1	
R6225,26		ERJ2GEJ101	M.RESISTOR CH 2W 1K	2	
R6233-36		ERJ2GEJ102	M.RESISTOR CH 2W 1K	4	
R6238		ERJ2GEJ105	M.RESISTOR CH 2W 1M	1	
R6250		ERJ2GEJ222	M.RESISTOR CH 2W 2.2K	1	
R6251		ERJ2GE0R00	M.RESISTOR CH 2W 0	1	
R6252		ERJ2GEJ102	M.RESISTOR CH 2W 1K	1	
R6253		ERJ2GEJ103	M.RESISTOR CH 2W 10K	1	
R6261		ERJ2GE0R00	M.RESISTOR CH 2W 0	1	
R6263		ERJ2GEJ103	M.RESISTOR CH 2W 10K	1	
R6266		ERJ2GEJ104	M.RESISTOR CH 2W 100K	1	
R6267		ERJ2GEJ563	M.RESISTOR CH 2W 56K	1	
R6268		ERJ2GE0R00	M.RESISTOR CH 2W 0	1	
R6270		ERJ2GEJ101	M.RESISTOR CH 2W 1K	1	
R6271		ERJ2GE0R00	M.RESISTOR CH 2W 0	1	
R6272,73		ERJ2GEJ473	M.RESISTOR CH 2W 47K	2	
R6274		ERJ2GEJ102	M.RESISTOR CH 2W 1K	1	
R8003		ERJ2GEJ272	M.RESISTOR CH 2W 2.7K	1	
R8004		ERJ2GEJ103	M.RESISTOR CH 2W 10K	1	
R8005		ERJ2GEJ183	M.RESISTOR CH 2W 18K	1	
R8006,07		ERJ2GEJ471	M.RESISTOR CH 2W 470	2	
R8008		ERJ2GEJ681	M.RESISTOR CH 2W 680	1	
R8009		ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	
R8010		ERJ3GEYJ472	M.RESISTOR 1/16W 4.7K	1	
R8011		ERJ2GEJ102	M.RESISTOR CH 2W 1K	1	
R8012		ERJ2GEJ181	M.RESISTOR CH 2W 180	1	
R8014		ERJ2GEJ102	M.RESISTOR CH 2W 1K	1	
R8015		ERJ2GEJ561	M.RESISTOR CH 2W 560	1	
R8016		ERJ2GEJ182	M.RESISTOR CH 2W 1.8K	1	
R8017		ERJ2GEJ681	M.RESISTOR CH 2W 680	1	
R8022		ERJ2GEJ561	M.RESISTOR CH 2W 560	1	
R8025,26		ERJ2GEJ103	M.RESISTOR CH 2W 10K	2	
R8027		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
R8039		ERJ2GEJ821	M.RESISTOR CH 2W 820	1	
R8044		ERJ2GEJ332	M.RESISTOR CH 2W 3.3K	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R8045		ERJ2GEJ223	M.RESISTOR CH 2W 22K	1	
R8054		ERJ2GEJ472	M.RESISTOR CH 2W 4.7K	1	
R8057,58		ERJ2GEJ474	M.RESISTOR CH 2W 470K	2	
R8062		ERJ2GEJ102	M.RESISTOR CH 2W 1K	1	
R8063		ERJ2GEJ471	M.RESISTOR CH 2W 470	1	
R8064		ERJ2GE0R00	M.RESISTOR CH 2W 0	1	
R8069,70		ERJ2GEJ681	M.RESISTOR CH 2W 680	2	
R8071,72		ERJ2GEJ102	M.RESISTOR CH 2W 1K	2	
R8074		ERJ2GE0R00	M.RESISTOR CH 2W 0	1	
R8076		ERJ2GEJ273	M.RESISTOR CH 2W 27K	1	
R8077		ERJ2GEJ153	M.RESISTOR CH 2W 15K	1	
R8078		ERJ2GEJ391	M.RESISTOR CH 2W 390	1	
R8079		ERJ2GEJ151	M.RESISTOR CH 2W 150	1	
R8080		ERJ2GEJ222	M.RESISTOR CH 2W 2.2K	1	
R8088		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R8111		ERJ2GEJ472	M.RESISTOR CH 2W 4.7K	1	
R8114		ERDS2TJ102	C.RESISTOR 1/4W 1K	1	
R8115		ERJ2GEJ272	M.RESISTOR CH 2W 2.7K	1	
R8116		ERJ2GEJ102	M.RESISTOR CH 2W 1K	1	
T4001		EIQ6QB008T	TRANSFORMER	1	
VR3004		EVM7JSX30B53	V.RESISTOR 5K	1	
VR3005		EVM7JSX30B23	V.RESISTOR	1	
VR3006		EVM7JSX30B14	V.RESISTOR 10K	1	
VR3007		EVM7JSX30B54	V.RESISTOR 50K	1	
VR3008		EVM7JSX30B52	V.RESISTOR	1	
VR3801		EVM7JSX30B53	V.RESISTOR 5K	1	
VR4002		EVM7JSX30B54	V.RESISTOR 50K	1	
VR4501		EVM7JSX30B23	V.RESISTOR	1	
VR6201		EVM7JSX30B15	V.RESISTOR	1	
X3801		VSX0430	CRYSTAL OSCILLATOR	1	
X6001		VSX0461	CRYSTAL OSCILLATOR	1	
X6002		VSX0602	CRYSTAL OSCILLATOR	1	
X6201		VSX0472	CRYSTAL OSCILLATOR	1	
X6202		VSX0568	CRYSTAL OSCILLATOR	1	
X8001		VSX0419	CRYSTAL OSCILLATOR	1	
			MISCELLANEOUS		
		VSC3927	SHIELD COVER	1	
		VSC3928	SHIELD COVER	1	
		VMZ2216	BARRIER	1	
	■	VEP01555A	POWER C.B.A.		(RTL)
B1001		VJS2961A028	CONNECTOR (FEMALE) 28P	1	
B1002		VJP3126D018	CONNECTOR (MALE) 18P	1	
C1001		ECUM1C335ZFM	C.CAPACITOR CH 16V 3.3U	1	
C1002		ECGC1BA4R7	CAPACITOR	1	
C1003		ECGC0KB8R2R	CAPACITOR	1	
C1004		ECUX1H331JCV	C.CAPACITOR CH 50V 330P	1	
C1005		ECST1CY335Z	T.CAPACITOR 16V 3.3U	1	
C1006		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C1008		ECGC0KB8R2R	CAPACITOR	1	
C1009		ECUM1H331KBN	C.CAPACITOR CH 50V 330P	1	
C1010		ECST1CY335Z	T.CAPACITOR 16V 3.3U	1	
C1011		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C1012		ECUX1H102KBV	C.CAPACITOR CH 50V 1000P	1	
C1013		ECGC1BA4R7	CAPACITOR	1	
C1014		ECUX1H561JCV	C.CAPACITOR CH 50V 56P	1	
C1015,16		ECEV1CA220	E.CAPACITOR CH 10V 22U	2	
C1017		ECUM1E105ZFM	C.CAPACITOR CH 25V 1U	1	
C1019		ECUM1E474ZFM	C.CAPACITOR CH 25V 0.47U	1	
C1020		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C1022		ECUM1C104KBN	C.CAPACITOR CH 16V 0.1U	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C1024		ECUM1C474ZFN	C.CAPACITOR CH 16V 0.47U	1	
C1025		ECUM1C104KBN	C.CAPACITOR CH 16V 0.1U	1	
C1026		ECEV1HA010	E.CAPACITOR 50V 1U	1	
C1027		ECUX1H101JCV	C.CAPACITOR CH 50V 100P	1	
C1028		ECEV1HAR47R	CAPACITOR	1	
C1029		ECUX1H471JCV	C.CAPACITOR CH 50V 470P	1	
C1030		ECUX1H822KBV	C.CAPACITOR CH 50V 8200P	1	
C1031		ECUX1H471JCV	C.CAPACITOR CH 50V 470P	1	
C1032		ECUX1H822KBV	C.CAPACITOR CH 50V 8200P	1	
C1033-35		ECUX1H102KBV	C.CAPACITOR CH 50V 1000P	3	
C1036		ECUX1H471JCV	C.CAPACITOR CH 50V 470P	1	
C1037		ECUX1H822KBV	C.CAPACITOR CH 50V 8200P	1	
C1042		ECST1CY335Z	T.CAPACITOR 16V 3.3U	1	
C1043		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C1046		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C1051		ECUM1C474ZFN	C.CAPACITOR CH 16V 0.47U	1	
C1056		ECEV0GA330	E.CAPACITOR 4V 33U	1	
C1057		ECST1CY335Z	T.CAPACITOR 16V 3.3U	1	
C1058		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C1063		ECUX1H472KBV	C.CAPACITOR CH 50V 4700P	1	
C1064		ECEV1CV470S	E.CAPACITOR 16V 47U	1	
C1066		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C1071		ECUM1C335ZFM	C.CAPACITOR CH 16V 3.3U	1	
C1103		ECEV1CA220	E.CAPACITOR CH 10V 22U	1	
D1002		SFPB-76V	DIODE	1	
D1003		MA142K	DIODE	1	
D1004		EC10QS04	DIODE	1	
D1005		SB05-05CP	DIODE	1	
D1006,07		MA142K	DIODE	2	
D1008		MA728	DIODE	1	
D1009		RD7.5M	DIODE	1	
D1012		MA143	DIODE	1	
D1015		MA738	DIODE	1	
D1062		SB05-05CP	DIODE	1	
D1064		MA728	DIODE	1	
D1101-03		MA8130	DIODE	3	
D1501		SFPB-64	DIODE	1	
IC1001		BA9706K	IC	1	
J1001		VEK6535	JACK	1	
J1002		VEK5717	JACK	1	
J1501		VJJ0368	JACK	1	
L1001		ELL04T502R	COIL	1	
L1002		ELL04T016R	COIL	1	
L1003		ELC6UB4R7M	COIL 4.7UH	1	
L1004		VLQ0319K100	COIL 10UH	1	
L1006		VLQ0319K470	COIL 47UH	1	
L1007		ELL04T027R	COIL	1	
L1008		VLQ0606	COIL	1	
L1009		VLQ0319K100	COIL 10UH	1	
L1010,11		VLQ0319K101	COIL 100UH	2	
L1012		VLQ0319K100	COIL 10UH	1	
L1013		VLQ0319K470	COIL 47UH	1	
L1014		VLQ0319K100	COIL 10UH	1	
L1015		VLQ0319F150	COIL 15UH	1	
L1062		ELL04T035R	COIL	1	
L1102,03		VLP0134	COIL	2	
Q1001		2SA1731	TRANSISTOR	1	
Q1002,03		2SB798	TRANSISTOR	2	
Q1004		2SD2210	TRANSISTOR	1	
Q1005		2SB1073	TRANSISTOR	1	
Q1006		2SB970X	TRANSISTOR	1	
Q1062		2SB798	TRANSISTOR	1	
QR1002		UN5214	TRANSISTOR-RESISTOR	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
QR1004		UN5214	TRANSISTOR-RESISTOR	1	
QR1005		UN5114	TRANSISTOR-RESISTOR	1	
QR1061		UN5115	TRANSISTOR-RESISTOR	1	
R1001		VRE0067G822	RESISTOR	1	
R1002		VRE0067G272	M.RESISTOR	1	
R1003		ERJ3GEYJ102	M.RESISTOR 1/16W 1K	1	
R1004		ERJ3GEYJ391	M.RESISTOR CH 1/16W 390	1	
R1005		VRE0067G562	M.RESISTOR	1	
R1006		VRE0067G272	M.RESISTOR	1	
R1007		ERJ8GEYJ330	M.RESISTOR CH 1/8W 33	1	
R1008		VRE0067G103	RESISTOR	1	
R1009		VRE0067G152	RESISTOR	1	
R1012		VRE0067G20CT	RESISTOR	1	
R1013		VRE0067G393	RESISTOR	1	
R1014,15		VRE0067G182	M.RESISTOR	2	
R1016		VRE0034E153	M.RESISTOR CH 1/10W 15K	1	
R1017		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R1018		ERJ3GEYJ151	M.RESISTOR CH 1/16W 150	1	
R1019		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R1020		ERJ3GEYJ151	M.RESISTOR CH 1/16W 150	1	
R1021		ERJ3GEYJ330	M.RESISTOR CH 1/16W 33	1	
R1022		ERJ3GEYJ150	M.RESISTOR CH 1/16W 15	1	
R1023		ERJ3GEYJ182	M.RESISTOR CH 1/16W 1.8K	1	
R1024		ERJ3GEYJ470	M.RESISTOR CH 1/16W 47	1	
R1025		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R1026		ERJ3GEYJ102	M.RESISTOR 1/16W 1K	1	
R1027		ERJ3GEYJ151	M.RESISTOR CH 1/16W 150	1	
R1032		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R1033		ERJ3GEYJ102	M.RESISTOR 1/16W 1K	1	
R1035		ERJ3GEYJ470	M.RESISTOR CH 1/16W 47	1	
R1038		VRE0034E330	M.RESISTOR CH 1/10W 33	1	
R1039		VRE0034E35A	RESISTOR	1	
R1040		VRE0034E151	M.RESISTOR CH 1/10W 150	1	
R1051		VRE0071E273	RESISTOR	1	
R1052		VRE0071E473	RESISTOR	1	
R1062		ERJ6GEYJ391	M.RESISTOR CH 1/10W 390	1	
R1063		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R1065		ERJ3GEYJ122	M.RESISTOR CH 1/16W 1.2K	1	
R1071		ERJ3GEYJ102	M.RESISTOR 1/16W 1K	1	
R1072		ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	1	
R1073		ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	
R1077		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R1080		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R1115		VSF0092	RESISTOR	1	
R1207		ERJ3GEYJ102	M.RESISTOR 1/16W 1K	1	
T1001		ELL04T051R	TRANSFORMER	1	
T1002		VTP0351	TRANSFORMER	1	
			MISCELLANEOUS		
		VSC3659	POWER SHIELD CASE (TOP)	1	
		VSC3953	POWER SHIELD CASE (BOTTOM)	1	
		VSC3978	HEAT RUBBER (A)	1	
		VSC3980	HEAT RUBBER (B)	1	
		VSC3995	SILICONE RUBBER	1	
		VSC3996	HEAT PLATE	1	
		VSC3997	HEAT PLATE	1	
	■	VEP06899A	INTERFACE C.B.A.		(RTL)
C6601		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C6602		ECUM1H103KBM	C.CAPACITOR CH 50V 0.01U	1	
C6603-05		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	3	
FP6601		VJB00T80	CONNECTOR	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
P6601		VJP3172B003	CONNECTOR (MALE) 3P	1	
P6602,03		VJP3172B002	CONNECTOR (MALE) 2P	2	
P6604		VJP3172B003	CONNECTOR (MALE) 3P	1	
P6605		VJP3125D002	CONNECTOR (MALE) 2P	1	
R6601		ERJ3GEYJ102	M.RESISTOR 1/16W 1K	1	
	■	VEP02418A	DRIVE C.B.A.		(RTL)
C2001		ECUM1C564KXM	C.CAPACITOR CH 16V 0.56U	1	
C2002		ECUM1C105KBM	C.CAPACITOR CH 16V 1U	1	
C2003		ECUX1H332KBV	C.CAPACITOR CH 50V 3300P	1	
C2004		ECUX1H470JCV	C.CAPACITOR CH 50V 47P	1	
C2005		ECUX1H152KBV	C.CAPACITOR CH 50V 1500P	1	
C2006		ECUX1H470JCV	C.CAPACITOR CH 50V 47P	1	
C2007		ECUM1C105KBM	C.CAPACITOR CH 16V 1U	1	
C2009		ECUM1C104KBN	C.CAPACITOR CH 16V 0.1U	1	
C2011		ECUX1E223KBV	C.CAPACITOR CH 25V 0.22U	1	
C2012		ECUM1C473KXV	C.CAPACITOR CH 16V 0.047U	1	
C2013		ECST0JY106Z	T.CAPACITOR 6.3V 10U	1	
C2014		ECST1AY475Z	T.CAPACITOR 10V 4.7U	1	
C2015-17		ECUM1C104KBN	C.CAPACITOR CH 16V 0.1U	3	
C2018		ECST0JY106Z	T.CAPACITOR 6.3V 10U	1	
C2020-22		ECUX1H103KBV	C.CAPACITOR CH 50V 0.01U	3	
C2023		ECST0JY106Z	T.CAPACITOR 6.3V 10U	1	
C2024		ECUX1H103KBV	C.CAPACITOR CH 50V 0.01U	1	
C2025-27		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	3	
C2028		ECST0JY106Z	T.CAPACITOR 6.3V 10U	1	
C2029-32		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	4	
C2033		ECUM1C185ZFN	C.CAPACITOR CH 16V 1.8U	1	
C2036		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C2040-42		ECUM1C473KXV	C.CAPACITOR CH 16V 0.047U	3	
FP2001		VJS2848D007	CONNECTOR (FEMALE) 7P	1	
FP2002		VJS2958B018	CONNECTOR (FEMALE) 18P	1	
FP2003		VJS3442D023	CONNECTOR (FEMALE) 23P	1	
IC2001		TB6513AF	IC	1	
IC2002,03		UN224	IC	2	
QR2001		ON2170	DIODE	1	(REEL SENSOR)
QR2002		UN5215	TRANSISTOR-RESISTOR	1	
R2001		ERJ3GEYJ102	M.RESISTOR 1/16W 1K	1	
R2002		ERJ3GEYJ224	M.RESISTOR CH 1/16W 220K	1	
R2003		ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R2004		ERJ3GEYJ154	M.RESISTOR CH 1/16W 150K	1	
R2005		ERJ3GEYJ392	M.RESISTOR CH 1/16W 3.9K	1	
R2006		ERJ3GEYJ474	M.RESISTOR CH 1/16W 470K	1	
R2007		ERJ8GEYJR47	M.RESISTOR 1/8W 0.47	1	
R2008		ERJ8GEYJR33	M.RESISTOR CH 1/8W 0.33	1	
R2009		ERJ3GEYJ561	M.RESISTOR CH 1/16W 560	1	
R2010		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R2011		ERJ6GEYJ271	M.RESISTOR CH 1/10W 270	1	
R2012		ERJ3GEYJ684	M.RESISTOR CH 1/16W 680K	1	
R2013,14		ERJ3GEYJ102	M.RESISTOR 1/16W 1K	2	
R2015		ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R2016		ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R2017		ERJ3GEYJ102	M.RESISTOR 1/16W 1K	1	
R2018		ERJ3GEYJ472	M.RESISTOR 1/16W 4.7K	1	
R2019,20		ERJ3GEYJ471	M.RESISTOR 1/16W 470	2	
R2021		ERJ6GEYJ101	M.RESISTOR CH 1/10W 100	1	
R2022		ERJ8GEYJR33	M.RESISTOR CH 1/8W 0.33	1	
R2040-42		ERJ3GEYJ331	M.RESISTOR CH 1/16W 330	3	
R2045,46		ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	2	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
			MISCELLANEOUS		
		VMD1842	REEL SENSOR STATOR	1	
	■	VEK6450	AV JACK UNIT		(RTL)
J1502		VEJ1414	JACK	1	
L3501-03		VLQ0584	FILTER	3	
L3504		VLP0171	COIL	1	
L3506,07		VLQ0584	FILTER	2	
			MISCELLANEOUS		
		VSC3689	EARTH PLATE	1	
	■	VEK6451	S-JACK C.B.A.		(RTL)
B1501		VJS2961A012	CONNECTOR (FEMALE) 12P	1	
C3502		ECUM1H221JCN	C.CAPACITOR CH 50V 220P	1	
J1501		VEJ1188	JACK	1	
	■	VEK6547	EJECT C.B.A.		(RTL)
P6603		VJS3172B002	CONNECTOR (FEMALE) 2P	1	
S6703		VSP0584	SWITCH	1	
	■	VEK6549	SNAP C.B.A.		(RTL)
P6602		VJS3172B002	CONNECTOR (FEMALE) 2P	1	
			MISCELLANEOUS		
		VEE8594	SNAP CABLE	1	
		VMG0763	RUBBER SWITCH	1	
	■	VEK6577	S/S POWER SW C.B.A.		(RTL)
P6601		VJS3172B003	CONNECTOR (FEMALE) 3P	1	
P6701		VJS3172B003	CONNECTOR (FEMALE) 3P	1	
PJ6701		VJP3318A003	CONNECTOR (MALE) 3P	1	
S6702		ESE105MH7	CAPACITOR	1	
			MISCELLANEOUS		
		VEE8593	CABLE	1	

INTERNAL REFERENCE CODES

NOTE: This chart is only for internal reference.
Do not order any parts according to these codes.

P. C. B.	FILM CODE
DRIVE	HOMF00-02418
EVF	HOMF00-28069
CAMERA MAIN	HOMF00-23169
VTR MAIN	HOMF01-03A55
POWER	HOMF01-01555

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